

# CONTRACEPTION AND INDUCED ABORTIONS AMONG JEWISH MATERNITY CASES IN ISRAEL<sup>1</sup>

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## INTRODUCTION

THE present article summarizes some preliminary results of a survey of fertility and fertility control among Jewish maternity cases in Israel. The survey was carried out in the period August, 1959 through March, 1960.

A fairly detailed picture of fertility trends in the Jewish population of Israel is already available.<sup>2</sup> The object of the survey was to obtain some preliminary (and also relatively rapid and inexpensive) data concerning the extent of family limitation in the various sectors of the Jewish population and concerning its relationship to differential fertility. Fertility declined in the Jewish population of Palestine through the 1930's and reached a low point (total fertility rate of 2.12) in 1941, recovered during and immediately after World War II, and reached a peak in 1947 (total fertility rate of 3.54), the year before Israel achieved independence. A very brief decline in fertility was experienced in 1948, the year of Israel's war of independence, but immediately after, with the beginning of the mass Jewish

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<sup>2</sup> Fertility trends in the Jewish population of Palestine and Israel have been analyzed in: R. Bachi, *MARRIAGE AND FERTILITY IN THE VARIOUS SECTORS OF THE JEWISH POPULATION IN PALESTINE*, (Jerusalem, 1944); R. Bachi, *La Population Juive de l'Etat d'Israel*, *Population*, vii, 3 (1952); K. R. Gabriel, *The Fertility of the Jews in Palestine*, *Population Studies*, vi, 3 (1953); R. Bachi, *TRENDS OF POPULATION AND LABOR FORCE IN ISRAEL*, (Jerusalem, 1958); K. R. Gabriel, *NUPTIALITY AND FERTILITY IN ISRAEL* [Hebrew, with English summary], (Jerusalem, 1960). In addition, the Israel Central Bureau of Statistics publishes monthly and annual fertility data in considerable detail.

immigration to Israel, fertility rose sharply, reaching a new peak in 1951 (total fertility rate reaching 4.01 in 1951). Since 1951, fertility has declined somewhat but remains much higher than in pre-World War II years. (Total Fertility Rates around 3.40–3.70 in the period 1952–1960).

The most important factor in the increase of fertility since achievement of independence in 1948 has been the very greatly increased proportion of the population born in Asian and African countries (excluding Israel). Whereas Jewish immigrants to Palestine in the pre-state period were predominantly of European birth, the majority of those immigrating since 1948 were born in Eastern (i.e. Asian or African) countries and characterized by much higher fertility than the European-born immigrants. (Table I) In addition to the change in composition of the population by geo-cultural origin, a number of studies point to an increase in family size in the population of European birth as well.

Table 1. Jewish Population of Israel: Total fertility rates, by place of birth of mothers, 1949–1959 and selected pre-statehood years<sup>a</sup>.

YEAR	TOTAL	PLACE OF BIRTH OF MOTHERS		
		Israel	Asia-Africa	Europe-America
1938	2.48	3.54 <sup>b</sup>	4.62 <sup>b</sup>	1.85 <sup>b</sup>
1941	2.12	—	—	—
1944	3.27	3.87 <sup>b</sup>	4.99 <sup>b</sup>	3.06 <sup>b</sup>
1947	3.54	—	—	—
1948	3.08	—	—	—
1949	3.42	3.57	4.47	3.20
1950	3.90	3.93	5.66	3.29
1951	4.01	3.57	6.31	3.18
1952	3.98	3.36	6.23	3.04
1953	3.88	3.21	6.15	2.87
1954	3.59	2.89	5.67	2.68
1955	3.64	2.82	5.67	2.64
1956	3.66	2.78	5.63	2.63
1957	3.61	2.83	5.45	2.59
1958	3.40	2.72	4.95	2.47
1959	3.49	2.79	5.28	2.33

<sup>a</sup> Source: Israel Central Bureau of Statistics, various publications.

<sup>b</sup> Estimates of Mandatory Government of Palestine, corrected by the Israel Central Bureau of Statistics, for 1938/40 and 1944/45 respectively.

Within the population of Eastern origin, fertility appears to vary inversely with length of residence in Israel. The total fertility rate for women of Eastern origin immigrating prior to 1948 was 5.71 and 4.22 in 1951 and 1954 respectively; whereas for women of Eastern birth immigrating in 1948 or later, total fertility rates were 6.50 and 5.96 in 1951 and 1954 respectively.<sup>3</sup> From these and similar data, it has been inferred that, with increased duration of residence in Israel, there is a growing tendency toward limitation of family size in the population of Eastern origin. The extent to which family limitation is practiced in the various sectors of the population is increasingly recognized as the key variable in fertility trends in Israel, but heretofore no data directly concerning practice of family limitation have been available.

The survey reported here was conducted in 23 hospitals in Israel (in which some 97 per cent of all births to Jewish mothers took place in 1958) and included *all* women giving birth during a 60-day period in Tel Aviv-Jaffa, during a 42-day period in Jerusalem, and during 12-day periods in hospitals in all other places. The women were interviewed by nurses, and ordinarily the interviews took place within the first three or four days after delivery.

Demographic details on the questionnaire included age, place of birth, father's place of birth, year of immigration to Israel, year of marriage, and present place of residence. The questionnaire also covered socio-economic items including the number of school years completed, present and past employment status, husband's occupation, number of dwelling rooms, and extent of religious observance. In addition, complete pregnancy histories were obtained including year of each conception, how each conception terminated, and method of contraception, if any, used prior to each pregnancy.

In general, cooperation on the part of the maternity cases was very good. Each of the nurses employed in the interviewing

<sup>3</sup> K. R. Gabriel, *NUPTIALITY AND FERTILITY IN ISRAEL*, Table A-2, p. 201. Also, English summary, pp. 11-13.

had had previous experience with maternity cases, and each received about a week of training with the questionnaire. Many of the women interviewed replied to the questions simply as if to one more administrative questionnaire in the pre-natal and post-natal care routines, but a large number asked and were told the purpose of the survey. Of more than 3,000 maternity cases contacted, less than a score refused to cooperate. For the most part, the women actually enjoyed relating their pregnancy histories and were pleased at the interest expressed by the nurses in their marriages, homes, and families.

According to Gabriel's finding, almost all Jewish women in Israel have at least one birth, and of those immigrating since 1948, almost all have at least two births.<sup>4</sup> Nevertheless attention should be directed to an important limitation of the survey: a survey of maternity cases is necessarily biased with respect to practice of contraception and to induced abortion in the population as a whole. Women practicing contraception are less likely to be included than are those not doing so; and for those practicing contraception, success is inversely related to the likelihood of inclusion in the sample. However, the extent of this bias is directly related to age and order of present birth, and it is felt that for younger women (under 30) and for women with only one or two births, the bias is small.

#### EXTENT OF PRACTICE OF CONTRACEPTION AND INDUCED ABORTIONS AMONG JEWISH MATERNITY CASES

The major results of the survey of maternity cases are summarized in Table 2. About 40 per cent of the women giving birth reported practice of contraception at some time prior to the present birth, and about 10 per cent reported having had induced abortions. The extent both of the practice of contraception and of resort to induced abortions varies considerably according to continent of birth and geo-cultural origin. The percentage of women born in Israel and in Europe-America reporting past practice of contraception (61 and 64 per cent respectively) is more than twice that of women born in Asia-

<sup>4</sup> K. R. Gabriel, *loc. cit.*, English summary, pp. 8-9.

Africa (25 per cent).<sup>5</sup> While more than a fifth (21 per cent) of the women born in Europe-America reported having had induced abortions, among women born in Israel and among those born in Asia-Africa, 11 per cent and 5 per cent respectively reported past induced abortions.

The percentages of women reporting experience with both contraception and induced abortions increase with increasing age up to age 34 (Table A, Appendix), but the differences by continent of birth persist in each age group. Percentages reporting contraception and induced abortion decrease for the oldest age groups, primarily reflecting the bias noted above, with women over 35 successfully practicing contraception much

Table 2. Jewish maternity cases by place of birth and place of residence in Israel, proportion reporting any past practice of contraception and induced abortion.

PLACE OF BIRTH	NUMBER MATERNITY CASES	PER CENT		NUMBER MATERNITY CASES	PER CENT	
		Practiced Contraception	Reported Induced Abortion		Practiced Contraception	Reported Induced Abortion
PLACE OF RESIDENCE IN ISRAEL						
Total <sup>a</sup>						
TOTAL	3,006	40.5	9.7	1,444	52.8	16.0
Israel	662	60.6	11.1	331	57.7	15.7
Europe, America, Oceania	756	64.0	20.8	438	61.4	22.2
Asia-Africa, Middle East	1,588	24.8	4.8	675	44.7	12.2
Jerusalem						
TOTAL	582	42.0	6.0	980	36.4	8.4
Israel	198	52.7	6.5	133	66.2	10.5
Europe, America, Oceania	94	50.4	10.3	224	67.1	21.4
Asia-Africa, Middle East	290	32.1	4.3	623	18.9	3.2
All Other Places						

<sup>a</sup> Percentages for the entire country are weighted averages of the percentages for the separate places (Tel Aviv-Jaffa; Jerusalem; and All Other Places) with weights determined in accordance with duration of the survey in each place.

<sup>5</sup> In this study women born in Europe and America are sometimes indicated as "Western," and those born in Asia and Africa as "Eastern."

less likely to be included in the sample than women not attempting to interrupt the "natural" course of conceptions and births. However, especially for women born in Asia-Africa, the differences by age reflect the substantial age-group and marriage cohort differences in practice of family limitation: most of the older women born in Asia-Africa were already married when they immigrated to Israel, most had had little if any education, and most had never been employed outside their homes. By contrast, the younger women born in Asia-Africa attended at least primary school in Israel, reached adolescence in Israel, had been employed or served in the Israel Defense Forces prior to marriage, and were generally more strongly integrated in the main streams of modern Israeli social and economic life.

The increase in extent of practice of contraception and in induced abortion with increasing age is associated primarily with difference in extent of family limitation by parity. Less than a third (32 per cent) of the women having their first births reported previous practice of contraception as, compared with 60 and 57 per cent among women having second and third births respectively (Table B, Appendix). Similarly, the percentage reporting induced abortions increases very steeply with higher parities, with 18 per cent of women having third births reporting induced abortions as compared with 6 per cent among those having first births.

For women having fourth and higher order births, the percentages reporting practice of contraception and having had induced abortions are lower, reflecting again the sample bias noted previously. The differences in extent of family limitation associated with continent of birth are apparent in the tabulations by order of present birth, with percentages of women born in Asia-Africa reporting contraception and induced abortions much lower at each parity.

Thus, of couples practicing contraception at all, a large proportion begin to do so only after the first birth. On the other hand, some couples begin practice of contraception only after the number of births has reached or exceeded the number de-

sired. Therefore comparison of maternity cases in terms of relative frequencies sometimes-practicing and never-practicing contraception has limitations from the point of view of assessment of extent of practice of family limitation. Considerable improvement over the dichotomous division is achieved by a simple classification based upon parity at present birth and number of live births preceding practice of contraception. The classification consists of five groups, denoted henceforth "Intervention Groups," as follows:

A. Women having four or more live births:

1. *Early Intervention Group I*: Women reporting practice of contraception beginning *before* the conception terminating with the third live birth.
2. *Late Intervention Group*: Women reporting practice of contraception beginning only *after* the third live birth.
3. *Non-Intervention Group*: Women reporting no practice of contraception. It is assumed that only a few couples in the lower (parity) extremity of this group will practice contraception in the future, and that the great majority will not.

B. Women Having Three or Fewer Live Births:

4. *Early Intervention Group II*: Women reporting practice of contraception at any time.
5. *Residual Group*: Women reporting no practice of contraception. (No assumption at all is made regarding the future practice or non-practice of contraception.)

The distribution of women in the sample by intervention groups is given in Table C, Appendix, for sub-groups by continent of birth for Tel Aviv-Jaffa, Jerusalem, and other places separately. The overwhelming majority in the sample having fourth or higher order births are women born in Asia-Africa. The latter are mostly in the non-intervention group, although in Tel Aviv-Jaffa about 37 per cent are in the early intervention Group I and another 5 per cent are in the late intervention

group. The very great increase in extent of family limitation practices among Asia-Africa born women is reflected in the division of the women having 1-3 live births, with almost a third (31 per cent) reporting practice of contraception prior to the third birth. For Tel Aviv-Jaffa, almost half (47 per cent) of the Asia-Africa born women having first, second, or third births are included in the early intervention Group II.

The majority of women born in Israel and in Europe-America are in one of the early intervention groups. In the sample as a whole, late intervention is relatively infrequent, and of all women having fourth or higher order births, only 6 per cent reported practice of contraception beginning after the third live birth (about 26 per cent of those reporting practice of contraception at all). On the other hand, late intervention is not much more frequent among women born in Asia-Africa. Just under a third (32 per cent) of women having fourth or higher order births and reporting practice of contraception at all were included in the late intervention group in the country as a whole, although outside of Tel Aviv-Jaffa, the percentages in the late intervention group are higher.

#### GEO-CULTURAL ORIGIN AND LENGTH OF RESIDENCE IN ISRAEL

The relationship between geo-cultural origin and duration of residence in Israel to differential fertility in the various sectors of the population born abroad has received considerable attention in analyses of fertility trends in Israel. Questions of change in family size in the different ethnic groups are part of the more general problem of absorption of immigrants and of assimilation of new values and behavior patterns in all other spheres of social and family life.<sup>6</sup> In general, in the twentieth century Jews in Western countries have been characterized by particularly low fertility and it has been assumed that, except

<sup>6</sup> Cf. the analyses cited in Note (2) above. For a more general "sociological" analysis of absorption of immigrants in Israel, see S. N. Eisenstadt, *THE ABSORPTION OF IMMIGRANTS*, (London, 1954); a detailed analysis of trends in differential fertility by nativity and ethnic groups in the United States is presented in W. H. Grabill, C. V. Kiser, and P. K. Whelpton, *THE FERTILITY OF AMERICAN WOMEN*, (New York, 1958), Chap. 4.



for the very orthodox Jewish groups, the low fertility rates have been associated with extensive practices of family limitation as well as with late marriage. On the other hand, the Jewish communities in Islamic countries were characterized by relatively early marriage, especially for women, and as far as can be determined, the systematic practice of family limitation was practically unknown in these communities. In the present context, it is of particular importance to assess the extent to which immigration to Israel and close contact with the population of Western origin are associated with the introduction of family limitation practices in the Jewish population of Eastern origin.

Differentials by geo-cultural origin in the extent of practice of contraception and of induced abortion have already been noted in preceding sections, and differences by parity of present birth within the group of Asia-Africa-born women have been

Table 3. Mean number of live births, per cent reporting practice of contraception, and per cent reporting induced abortion by ethnic origin and by length of residence in Israel.

CULTURAL ORIGIN AND LENGTH OF RESIDENCE IN ISRAEL	NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING	
			Contra-ception	Induced Abortion
<i>European Origin</i>				
Total	962			
Born in Israel	213	2.0	66.1	14.4
Born Abroad:				
Immigrated Prior to 1948	220	2.6	73.2	22.9
Immigrated in 1948 or Later	529	2.1	61.3	20.1
<i>Asian-African Origin</i>				
Total	1,678			
Born in Israel	102	2.1	55.2	5.5
Born Abroad:				
Immigrated Prior to 1948	151	3.2	52.8	11.8
Immigrated in 1948 or Later	1,425	4.0	22.3	4.3
<i>Two or more Generations in Israel (Palestine)</i>				
Born in Israel	145	2.6	53.0	5.3

mentioned in connection with the discussion of Intervention Groups. Data of the survey relating to geo-cultural origin, place of birth, and length of residence of foreign-born women in Israel are summarized in Table 3, with women born in Israel classified by continent of birth of their fathers.

Among women of European origin, the extent of practice of contraception and of induced abortion does not vary substantially by length of residence in Israel, although slightly fewer of the new immigrants (immigrating in 1948 or later) reported practice of contraception and fewer of those born in Israel reported induced abortions. On the other hand among women of Asian-African origin born in Israel or early settlers in the country (immigrated prior to 1948), the percentage reporting practice of contraception is more than twice the percentage for the new immigrants from those countries. For veteran settlers of Asian-African origin, the percentage reporting induced abortion is almost three times that of the new immigrants, and fertility of the veteran settlers is substantially lower (although the group is slightly older) than that of the new immigrants. Nevertheless, there are still substantial differences between veteran settlers of European origin and those of Asian-African origin with respect to fertility and family limitation practices.

On the other hand, for women born in Israel, geo-cultural origin differences are very much reduced with respect both to fertility and extent of practice of contraception, though substantial differences are apparent in the percentages reporting induced abortions. For Israel-born women of European origin (i.e. fathers born in Europe or America), the mean number of live births is 2.0, compared with 2.1 among Israel born women of Eastern origin (i.e. fathers born in Asia or Africa). About 66 per cent of the sub-group of Western origin reported practice of contraception, compared with 55 per cent in the Eastern origin sub-group. But 14 per cent of the Western origin sub-group and only 5 per cent of the Eastern origin sub-group stated that they had had induced abortions.

For Israel-born women whose fathers were also born in the

country, the percentages reporting family limitation practices are very close to those reported by Eastern origin women born in Israel. However, the mean number of live births in this subgroup is considerably higher than those of the two first-generation Israel-born groups. This is due on the one hand to the second-generation group being slightly older than the other two groups and, on the other hand, to the inclusion in this group of a substantial proportion of women from the very religious groups residing in Palestine and Israel for several generations.

The very large differences in extent of family limitation practices between new immigrants of Eastern origin on the one hand and veteran settlers and Israel-born women of Eastern origin on the other hand are closely related to differences in educational opportunities and other factors associated with socio-economic levels, some of which are discussed in the sections which follow. However, from the data discussed in these paragraphs it seems clear that, to the extent that practice of family limitation reflects assimilation of small family values and of rationalistic values and outlooks, very large changes have been occurring in the Jewish population in Israel of Asia-African origin.<sup>7</sup> From the point of view of future trends in fertility in Israel, these changes seem to portend considerably lower levels of fertility and smaller families in the Jewish population of Eastern origin, although it is much too early to estimate the extent of these decreases.

#### PLACE OF RESIDENCE AND TYPE OF SETTLEMENT

Although the Jews in modern times have been characteristically an urban people, considerable Jewish settlement of rural areas of Palestine and Israel has taken place, first under the impetus of a Zionist back-to-the-soil ideology, later as an important security measure, and more recently as a form of settlement and absorption of new immigrants. Considerable interest

<sup>7</sup> On the relationship between rationalistic values and outlook and family limitation, see J. A. Schumpeter, *CAPITALISM, SOCIALISM, AND DEMOCRACY*, 2nd edition (New York, 1950), Chap. 14.

has been focused upon the development of a rural Jewish population in Palestine and Israel both from the point of view of the historical reversal implied in an urban-to-rural movement and from the point of view of the evolvement of new social and economic forms such as the cooperative small holders settlements (*moshavim*) and the more famous collective settlements (*kibbutzim*).

In the years preceding statehood, the rural sector of Jewish Palestine was considered to be the vanguard of the Zionist movement and, indeed, contained some of the best educated and most sophisticated elements of the Jewish population. Prior to statehood, the rural sector of the Jewish population of Palestine was characterized by very low fertility and smaller families than in the country as a whole.<sup>8</sup> However, since the establishment of the State of Israel, the composition of the rural population has changed considerably with the establishment of scores of new settlements inhabited primarily by new immigrants of Asian and African origin. Moreover, the absorption of immigrants in rural settlements has taken on forms radically different from those characteristic of the urban places: in particular many settlements homogeneous with respect to geo-cultural origin were established, and inhabitants of these settlements have succeeded in preserving pre-immigration cultural and social forms to a much greater extent than has been possible for immigrants settling in urban places.<sup>9</sup> Although crude birth rates are known to be higher now in parts of the rural population than in the Jewish population as a whole, detailed analysis of differential fertility by type of settlement will be possible only upon publication of more detailed population data of the 1961 Census of Population.

Data from the present survey are summarized by type of settlement in Table 4. Again, the maternity cases born in

<sup>8</sup> Cf. R. Bachi, MARRIAGE AND FERTILITY.

<sup>9</sup> Cf. A. Weingrod, Change and Continuity in a Moroccan Immigrant Village in Israel, *Middle East Journal* (Summer, 1960); for a statistical analysis of settlement of immigrants in the various types of settlement in Israel, see B. Z. Gil, THE SETTLEMENT OF NEW IMMIGRANTS IN ISRAEL, 1948-1953, (Jerusalem, 1957).

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Israel and in Europe-America are characterized by relative homogeneity with respect to practice of contraception and to levels of fertility regardless of type of settlement. The exception to the above occurs in Jerusalem, where a substantial proportion of Israel-born and European-American-born women belong to the very religious groups. Of the Israeli-born women, the per cent reporting induced abortions is considerably higher in Tel Aviv-Jaffa than elsewhere. (Almost half the Israeli-born women from collective settlements (*kibbutzim*)

Table 4. Mean number of live births, per cent reporting practice of contraception, per cent reporting induced abortion, by place of birth and by type of settlement in Israel.

TYPE OF SETTLEMENT IN ISRAEL	NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING		NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING	
			Contra-ception	Induced Abortion			Contra-ception	Induced Abortion
PLACE OF BIRTH								
Total								
TOTAL*	2,973	3.2	39.9	9.7	648	2.2	59.9	11.1
Born in Israel								
Tel Aviv-Jaffa,								
Jerusalem, Haifa	2,077	2.9	49.2	11.5	527	2.3	54.9	10.6
Tel Aviv-Jaffa	1,444	2.7	52.8	16.0	351	2.1	57.7	15.7
Jerusalem	549	3.5	37.9	6.0	184	2.6	46.8	6.5
Haifa	84	2.5	58.3	6.0	12	(2.3)	(75.0)	—
Other Urban Places	610	3.3	36.2	8.5	87	2.0	65.5	5.8
Smallholders Settlements	141	4.2	19.2	3.5	13	(2.2)	(61.6)	(7.7)
Collective Settlements	57	2.2	68.4	24.6	17	(2.1)	(70.6)	(41.2)
Other Rural Places	88	3.5	23.9	6.8	4	(2.0)	(49.9)	(24.9)
Born in Europe, America, Oceania								
TOTAL*	749	2.2	64.3	20.8	1,576	3.9	24.1	4.8
Born in Asia, Africa (Excl. Israel)								
Tel Aviv-Jaffa,								
Jerusalem, Haifa	562	2.2	61.0	18.1	988	3.7	39.2	8.0
Tel Aviv-Jaffa	438	2.3	61.4	22.2	675	3.3	44.7	12.2
Jerusalem	87	3.0	46.0	10.3	278	4.3	29.5	4.3
Haifa	37	1.5	70.3	13.5	55	3.6	40.0	—
Other Urban Places	130	2.2	69.2	26.9	393	4.0	18.8	3.1
Smallholders Settlements	12	(2.4)	(33.3)	(8.3)	116	4.6	12.9	2.6
Collective Settlements	34	2.3	67.7	17.7	6	(2.0)	(66.7)	(16.7)
Other Rural Places	11	(2.6)	(72.7)	(9.1)	73	3.7	15.1	5.5

\* Totals are weighted in accordance with duration of survey in each place. Percentages based on fewer than 30 cases are enclosed in parentheses.

reported induced abortions, but the number interviewed in the survey (17) is too small to permit any inferences.) For European-born women, the percentages in Haifa and in Jerusalem reporting induced abortions are considerably lower than for Tel Aviv-Jaffa and for other urban places; and collective settlements are characterized by high percentages reporting induced abortions.

Of maternity cases among Asian-African-born women, there is very great variation in extent of family limitation practices by type of settlement. At one extreme about 45 per cent of those giving birth in Tel Aviv-Jaffa reported practice of contraception, whereas at the other extreme, of women residing in cooperative smallholders' settlements (*moshavim*) only 13 per cent reported any practice of contraception. For Tel Aviv-Jaffa, the percentage reporting induced abortions (12 per cent) is four times the percentage (3 per cent) observed for women residing in smallholders' settlements. For women in the latter sub-group, the mean number of live births is 4.6, as compared with 3.3 for those residing in Tel Aviv-Jaffa.

Among women born in Asia-Africa, the practice of family limitation is most frequently reported by residents of the three large cities, Tel Aviv-Jaffa, Haifa and Jerusalem. In other urban places, family limitation is much less frequent, and it would appear that these lower frequencies are associated with the relative ethnic segregation characteristic of the smaller cities and urban places. This segregation takes primarily two forms: a number of urban places were either previously inhabited only by Arab residents or else did not exist at all and today are inhabited in overwhelming majority by new immigrants from Islamic countries. In these places contact with the population of European origin is minimal mostly because there are but few persons of European origin living there. In other places new immigrants from Asia and Africa were initially housed in temporary camps of tents or huts (*ma'abaroth*) on the outskirts of the towns, and permanent housing was sub-

sequently built to replace these camps—also on the outskirts of the towns—so that the Eastern origin population, and especially the women, are often segregated residentially from the veteran settlers of European origin. New immigrants in the homogeneous smallholders' cooperative villages are, of course, even more segregated than are those in the towns, and family limitation is least common in such villages. Aside from residential segregation, it appears that the pace of the smaller towns and the rural settlements is more permissive and puts less pressure upon the new immigrants to assimilate new values and behavior patterns.<sup>10</sup> In particular, this is reflected in a direct relationship, for immigrants of Eastern origin, between size of place of residence and the extent of family limitation practices.

#### SOCIO-ECONOMIC CHARACTERISTICS

Results of the survey for Tel Aviv-Jaffa have been analysed by number of school years completed, by present and past employment status, by occupations of husbands, and by extent of religious observance.<sup>11</sup> Summaries of the results by number of school years completed and by religious observance are presented in Table D and Table E, Appendix.

Almost all the Israeli-born and European-American-born women had completed at least five years of school, and almost all had been employed before marriage. The maternity cases born in Israel and in Europe-America are characterized by overall similarity of the education and occupation groups with respect both to fertility and to extent of practice of contraception. Two exceptions to this general similarity may be noted: for women born in Israel who completed 5–8 years of school, the mean number of live births (2.3) is considerably higher than the corresponding mean number for women who completed 9–12 or 13 years of school (1.8 and 1.7 live births

<sup>10</sup> Cf. S. N. Eisenstadt, *op. cit.*, and especially Chapters 6 and 8.

<sup>11</sup> Tel Aviv-Jaffa results have been analyzed in detail in R. Bachi, R. Toaff, J. Matras, and D. Ayalon, *NATALITY AND CONTRACEPTION AMONG WOMEN OF TEL AVIV-JAFFA* [in Hebrew], (Jerusalem, Hebrew University Press, 1961).

respectively). This difference is due mostly to age differences, the younger women born in Israel having had greater educational opportunities. A similar difference in mean number of live births is noted for the women born in Europe-America. Of women born in Europe-America who completed 9–12 years of school, the percentage reporting practice of contraception is 55 per cent, compared to 64 per cent among those completing only 5–8 years of school, and 73 per cent among those completing 13 + years of school (Table D, Appendix). The reason for this fluctuation is that the group completing 9–12 years of school includes most of the very religious women of European birth in the sample, the majority of whom reported no practice of contraception.

For women born in Israel, the percentages reporting induced abortions decrease with increased educational achievement. Percentages reporting induced abortions among women completing only 5–8 years of school are more than double those reporting abortions among women who attended secondary schools. A similar phenomenon occurs in connection with occupations of husbands; wives of husbands in white collar occupations report relatively fewer abortions than those of skilled, semi-skilled, and unskilled workers.

The extent of both births and of family limitation practices among women born in Asia-Africa is strongly associated with socio-economic characteristics. The practice of contraception increases, and fertility decreases, with increasing number of school years completed. However, the main division is between women not attending school at all and those having *some* education. In Tel Aviv-Jaffa, of the women of Eastern origin never attending school, 29 per cent reported practice of contraception and the mean number of live births is 4.9. By contrast, of women completing 1–4 years of school, about half (49 per cent) reported practice of contraception and the mean number of live births is 3.0 (Table D, Appendix). Similar differences are noted between women never employed and women employed before or after marriage, and between



wives of unskilled workers and wives of semi-skilled, skilled, or white collar workers.<sup>12</sup>

From the point of view of absorption of immigrants, assimilation of new values and behavior patterns, etc., one of the most important aspects of the differentiation by socio-economic characteristics is the similarity between ethnic groups in the medium ranges: thus in Table D, the fertility, contraception, and abortion characteristics for women completing 5-12 years of school are strikingly similar irrespective of geo-cultural origin. Parallel similarities are noted for wives of skilled and white collar workers, and for women who worked after marriage. The implication is that, at certain socio-economic levels, the influences of geo-cultural origin tend to disappear.

#### RELIGIOUS OBSERVANCE

Women interviewed in the sample were classified as "religious," "partially observant" or "non-observant" according to whether they *stated* that they are religious *and* observe the religious ritual bath traditions ("religious"), that they are religious or traditional but *do not* observe the ritual bath traditions ("partially-observant"), or that they are not religious or observant at all ("non-observant"). The division between "religious" and "partially-observant" is made on the basis of observance or non-observance of the ritual bath traditions because the former are associated with more general religious regulation of marital sexual relations. However, it should be noted that in the case of Eastern origin women, observance of the ritual bath tradition is not always accompanied by religious regulation of sexual relations and does not always represent as high a degree of orthodoxy as is the case for women born in Israel or in Europe-America.

Data for Tel Aviv-Jaffa by religious observance are summarized in Table E, Appendix. For women of all continents of birth, practice of contraception is less common and fertility is higher for "religious" women than for "non-observant" and "partially-observant" women. "Partially-observant" women,

<sup>12</sup> Detailed tables are presented. *Ibid.*

who are older on the average, reported practice of contraception as much as or more than "non-observant" women. However, the percentage reporting induced abortions among the "partially-observant" women is lower than that for "non-observant" women.

In view of the religious "be fruitful and multiply" sanction and the admonition against "spilling the seed," the finding that more than a third of the "religious" women (34 per cent) reported practice of contraception is somewhat surprising. A more detailed analysis of the relationship between religious observance and family limitation practices is in preparation.<sup>13</sup>

#### METHODS OF CONTRACEPTION

Although many women in the sample reported the use of two or more methods of contraception, it was possible to tabulate those reporting practice of contraception by "most advanced" method ever used, employing the following partially arbitrary scale: (a) Diaphragm and Jelly, (b) Dutch Cap ("Permanent" Diaphragm), (c) Condom, (d) Safe Period, (e) Withdrawal. Only a very small number (less than 1 per cent) reported use of other methods, such as douches, intrauterine pessaries, etc. Women interviewed in Tel Aviv-Jaffa and reporting practice of contraception are tabulated by "most advanced" method used, and by number of school years completed in Table 5.

Almost two thirds (62 per cent) of the women reporting practice of contraception at all reported withdrawal as the only method used. For women who completed only primary grades, about three fourths reported use of withdrawal and even among those attending secondary school or completing some higher education, the percentages (47 and 29 per cent respectively) reporting only withdrawal are surprisingly high. Percentages reporting use of "artificial" (a, b, or c above) methods of contraception increase with higher levels of education, but

<sup>13</sup> J. Matras and C. Auerbach, *On Rationalization of Family Formation in Israel*, [mss. in preparation].

NUMBER OF SCHOOL YEARS COMPLETED	NUMBER OF WOMEN PRACTICING CONTRACEPTION	METHODS OF CONTRACEPTION REPORTED						
		Total	(Per Cent Distribution)					
			With- drawal	Safe Period	Condom	Diaphragm and Jelly	"Dutch Cap"	Other Methods
TOTAL	762	100.0	61.5	5.0	22.7	6.4	3.4	0.9
0	63	100.0	71.4	3.2	22.2	1.6	0.0	1.6
1-4	85	100.0	77.6	2.4	15.3	4.7	0.0	0.0
5-8	326	100.0	72.7	2.8	17.2	4.9	1.8	0.6
9-12	211	100.0	46.9	8.1	30.3	8.5	4.7	1.4
13+	77	100.0	28.5	10.4	33.8	13.0	13.0	1.3

Table 5. Tel Aviv maternity cases reporting practice of contraception: Methods of contraception reported, by number of school years completed.

even of the women completing some higher education almost half reported use of "natural" (d or e, above) methods only. The very extensive dependence upon withdrawal as a method of contraception is the more surprising among women having some education both in view of the traditional objections to this method and of the very high level, and relatively easy availability, of medical services in Israel generally and in Tel Aviv-Jaffa in particular.

SUMMARY

Preliminary results of a survey of fertility and fertility control among Jewish maternity cases in Israel are reported here. Demographic and socio-economic data and complete pregnancy histories, including details of termination of each pregnancy and practices of contraception prior to each pregnancy, were obtained for some 3,000 women giving birth in the period August, 1959, through March, 1960.

Of the women interviewed, about 41 per cent reported practice of contraception at some time prior to the present birth, and 10 per cent reported having had induced abortions. Whereas less than a third (32 per cent) of the women having first births reported past practice of contraception, about three fifths of the women having second or third births (60 and 57 per cent respectively) reported practice of contraception.

Similarly, 6 per cent of those interviewed at the time of their first births reported having had induced abortions, but of the women having third births, 18 per cent reported previous induced abortions. Corresponding variation is noted when the data are tabulated by age of the maternity cases. Data pertaining to "older" women and to those having fourth or higher order births are believed to be biased in favor of women not practicing contraception and not having induced abortions.

At all ages, and for all parities, the percentages of women born in Asian and African countries practicing contraception and having had induced abortions are considerably lower than those of women born in Israel and in Europe and America. Among women born in Asian and African countries, there are very substantial differences associated with length of residence in Israel, size of place of present residence, level of education, past and present labor force attachment of the women, and occupation groupings of the husbands. Corresponding differences among women born in Israel and in European and American countries are much less pronounced.

For women of all ethnic backgrounds, strict religious observance is associated with non-practice of contraception, whereas women partially observant of religious traditions and laws practice contraception to about the same extent as do those not observant at all. Nonetheless more than a third (34 per cent) of the "religious" women in Tel Aviv-Jaffa reported practice of contraception. Induced abortion is considerably less frequent among the "partially observant" women than among the "non-observant" women, and some induced abortions were reported even by "religious" women.

Almost two thirds (62 per cent) of the women reporting practice of contraception at all reported withdrawal as the only method used. The extent of use of "artificial" methods of contraception increases with increasing educational achievement, but even among women completing some secondary or higher education, very substantial proportions reported withdrawal as the only method of contraception employed.

Table A. Jewish maternity cases—mean number of live births, per cent reporting practice of contraception, and per cent reporting induced abortion, by place of birth and age.

AGE	NUMBER MATERNITY CASES*	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING		NUMBER MATERNITY CASES*	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING	
			Contra-ception	Induced Abortion			Contra-ception	Induced Abortion
PLACE OF BIRTH								
Total								
TOTAL	2,973	3.2	39.9	9.7	648	2.2	59.9	11.1
Under 19	190	1.3	13.9	3.6	30	1.0	19.8	11.4
20-24	967	2.1	35.4	5.1	267	1.4	48.4	5.9
25-29	938	3.2	48.2	12.0	210	2.4	71.7	12.7
30-34	559	4.4	44.2	12.0	102	2.9	78.9	20.0
35+	319	6.0	38.6	16.6	39	5.4	46.1	13.1
Born in Europe, America, Oceania								
TOTAL	749	2.2	64.3	20.8	1,576	3.9	24.1	4.8
Under 19	17	(1.0)	(39.7)	(29.6)	143	1.3	10.9	0.3
20-24	168	1.5	47.2	7.3	532	2.4	27.6	4.2
25-29	279	2.0	71.8	25.1	449	4.1	27.2	4.9
30-34	172	2.7	68.1	19.9	285	5.7	22.7	5.8
35+	113	3.4	69.5	30.6	167	7.6	18.6	8.5
Born in Asia, Africa (Excl. Israel)								

\* Totals are weighted in accordance with duration of survey in each place. Percentages based upon fewer than 30 cases are enclosed in parentheses.

Table B. Jewish maternity cases—per cent reporting practice of contraception and per cent reporting induced abortions, by place of birth and parity of present birth.

PARITY OF PRESENT BIRTH	NUMBER MATERNITY CASES*	PER CENT		NUMBER MATERNITY CASES*	PER CENT	
		Practiced Contraception	Reported Induced Abortion		Practiced Contraception	Reported Induced Abortion
PLACE OF BIRTH						
Total						
TOTAL	2,973	39.9	9.7	648	59.9	11.1
1st Birth	822	32.3	5.6	255	40.5	4.1
2nd Birth	788	60.2	11.5	199	76.3	14.0
3rd Birth	474	57.4	18.3	98	79.2	18.5
4+	889	21.6	7.1	96	56.9	16.4
Born in Europe, America, Oceania						
TOTAL	749	64.5	20.8	1,576	24.1	4.8
1st Birth	224	45.3	13.7	343	18.6	1.2
2nd Birth	275	79.8	21.2	314	38.5	3.4
3rd Birth	146	79.0	31.9	230	37.6	10.2
4+					16.2	5.1
Born in Asia, Africa (Excl. Israel)						

Table C. Per cent distribution of Jewish maternity cases by intervention groups, according to area of birth and place of residence in Israel.

AREA OF BIRTH AND INTERVENTION GROUP	PLACE OF RESIDENCE IN ISRAEL			
	Total*	Tel Aviv-Jaffa	Jerusalem	All Other Places
<i>Total (All Places of Birth)</i>				
4+ Live Births—Total	100.0	100.0 = 334	100.0 = 221	100.0 = 328
Early Intervention I	17.6	41.9	18.2	12.5
Late Intervention	6.2	5.1	13.0	5.2
No Intervention	76.2	53.0	68.8	82.3
1-3 Births—Total	100.0	100.0 = 1110	100.0 = 361	100.0 = 652
Early Intervention II	48.3	54.7	48.6	46.0
Residual	51.7	45.3	51.4	54.0
<i>Born in Israel</i>				
4+ Live Births—Total	100.0	100.0 = 37	100.0 = 44	100.0 = 11
Early Intervention I	45.8	56.8	23.0	(63.6)
Late Intervention	13.7	2.7	16.4	(18.2)
No Intervention	40.5	40.5	60.6	(18.2)
1-3 Births—Total	100.0	100.0 = 294	100.0 = 154	100.0 = 122
Early Intervention II	60.8	57.5	56.4	63.9
Residual	39.2	42.5	43.6	36.1
<i>Born in Europe-America</i>				
4+ Live Births—Total	100.0	100.0 = 54	100.0 = 29	100.0 = 21
Early Intervention I	48.7	55.6	(17.5)	(57.1)
Late Intervention	6.1	5.5	(10.0)	( 4.8)
No Intervention	45.2	38.9	(72.5)	(38.1)
1-3 Births—Total	100.0	100.0 = 384	100.0 = 65	100.0 = 203
Early Intervention II	65.2	61.5	60.2	67.2
Residual	34.8	38.5	39.8	33.0
<i>Born in Asia-Africa</i>				
4+ Live Births—Total	100.0	100.0 = 243	100.0 = 149	100.0 = 296
Early Intervention I	12.1	36.6	16.9	7.5
Late Intervention	5.7	5.4	12.7	4.7
No Intervention	82.2	58.0	70.4	87.8
1-3 Births—Total	100.0	100.0 = 432	100.0 = 141	100.0 = 327
Early Intervention II	30.8	46.8	34.8	26.1
Residual	69.2	53.2	65.2	73.9

\* Totals weighted in accordance with duration of survey in each place. Percentages based upon fewer than 30 cases are enclosed in parentheses. See text for definitions of "Intervention Groups."

Table D. Tel Aviv maternity cases—Mean number of live births, per cent reporting practice of contraception, per cent reporting induced abortions, by place of birth and number of school years completed.

NUMBER OF SCHOOL YEARS COMPLETED	NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING		NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING	
			Contra-ception	Induced Abortion			Contra-ception	Induced Abortion
PLACE OF BIRTH								
Total*					Born in Israel			
TOTAL	1,444	2.7	52.8	16.0	331	2.0	57.7	15.7
0	212	4.8	29.7	7.5	3	(4.3)	(33.3)	(33.3)
1-4	165	3.0	51.5	7.0	18	(3.3)	(50.0)	(22.2)
5-8	566	2.5	57.6	20.7	126	2.3	58.7	23.0
9-12	379	2.0	55.7	13.2	116	1.8	57.8	8.6
13+	122	2.0	63.1	16.4	68	1.7	58.8	11.8
Born in Europe, America, Oceania					Born in Asia, Africa (Excl. Israel)			
TOTAL	438	2.3	61.4	22.1	675	3.3	44.7	12.1
0	4	(4.5)	(75.0)	(50.0)	205	4.9	28.8	6.3
1-4	25	(3.2)	(64.0)	(40.0)	122	3.0	49.2	11.5
5-8	182	2.4	64.3	23.6	258	2.6	52.3	17.4
9-12	188	2.0	55.0	17.6	81	2.1	54.3	9.9
13+	45	2.0	73.3	22.2	9	(4.4)	(44.4)	(22.2)

\* Totals are weighted in accordance with duration of survey in each place. Percentages based upon fewer than 30 cases are enclosed in parentheses.

Table E. Tel Aviv maternity cases—Mean number of live births, per cent reporting practice of contraception, per cent reporting induced abortions, by place of birth and religious observance.

RELIGIOUS OBSERVANCE	NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING		NUMBER MATERNITY CASES	MEAN NUMBER LIVE BIRTHS	PER CENT REPORTING	
			Contra-ception	Induced Abortion			Contra-ception	Induced Abortion
PLACE OF BIRTH								
Total					Born in Israel			
Total	480	2.7	49.8	15.6	111	2.0	48.7	12.6
"Non-Observant"	249	2.2	54.2	20.5	78	1.9	48.7	12.8
"Partially-Observant"	82	2.2	64.6	14.6	17	(2.0)	(70.6)	(17.6)
"Religious"	149	3.7	34.2	8.1	16	(2.5)	(25.0)	(6.2)
Born in Europe, America, Oceania					Born in Asia, Africa (Excl. Israel)			
TOTAL	143	2.3	59.4	25.2	226	3.3	44.3	11.1
"Non-Observant"	87	2.0	60.9	32.2	84	2.8	52.4	15.5
"Partially-Observant"	28	(1.9)	(67.9)	(14.3)	37	2.4	59.5	13.5
"Religious"	28	(3.5)	(46.4)	(14.3)	105	4.0	32.4	6.7