

# A FERTILITY STUDY IN A RURAL COMMUNITY IN THE U.A.R.\*

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The U.A.R. census data show that the country is facing a population explosion. Population estimates indicate that the population of the U.A.R. exceeded 30 millions (U.A.R. census 1966). Almost two thirds of the Egyptians live in areas which meet with the characteristics of rural agrarian communities. There is every reason to suspect that the rate of population increase is higher in rural areas as compared with urban areas. There is also unanimous agreement that birth control is not widely practiced in rural areas in the U.A.R.

With these facts in mind, the present study was carried out to determine the demographic characteristics and fertility pattern in a rural community which is primarily agrarian.

## MATERIAL AND METHODS

This fertility survey was conducted in the village of Al-Wastaniah which is a rural community in the vicinity of Kafr-Al-Dawar, the large industrial centre of Al-Behiera Governorate. The village is 25 kilometers from Alexandria and only two kilometers off the high way to Cairo.

A map of the area was prepared, showing the main land marks, streets and houses. A complete census was made by two physicians using the canvasser approach.

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Fertility data were collected from all females who were ever married, by the final year students of The Higher Institute of Nursing (HIN) University of Alexandria through a questionnaire interview method. Female physicians from the Department of Preventive Medicine, University of Alexandria and Instructors from (HIN), coached, supervised and checked on the accuracy and validity of the collected data.

The field operation was carried out during the period February through April 1968. Weekly meetings of the research team were held with the interviewers to review progress and discuss difficulties.

#### RESULTS AND DISCUSSION

##### Age and sex structure of the population :

The population of Al-Wastaniah totaled 3852 individuals as found by the census. Table (I) shows the age and sex structure of the population studied ; and for comparison ; the proportionate frequency by age and sex of the population of Al-Behiera and the U.A.R. It appears that the population of Al-Wastaniah is relatively younger. While 48.9% of the population of Al-Wastaniah were under 15 years of age, the corresponding proportions for Al-Behiera and the U.A.R. were 44.0% and 42.7% respectively.

TABLE I

Age and sex structure of the populations Of Al-Wastaniah,  
Al-Behiera Governorate and The U.A.R.\*

Age group in years	Al-Wastaniah					
	population			Percent distribution		
	Males	Females	Total	Al-Wastan.	El-Behiera	U.A.R.
Under 1	74	64	138	18.4	15.3	15.9
1— 4	291	278	569			
5— 9	299	312	611	30.5	28.7	26.8
10—14	287	277	564			
15—24	332	325	657	17.1	15.5	15.2
25—34	207	269	476	12.4	13.7	13.7
35—44	200	214	414	10.7	11.6	11.6
45—54	122	120	242	6.3	7.6	8.2
55—64	71	52	123	3.2	4.5	5.1
65+	27	31	58	1.5	3.1	4.1
Total	1910	1942	3852	100.1	100.0	100.0

\* Census data U.A.R. 1960.

### Distribution of females 15 years of age or older by marital status :

Of the total 1011 females 15 years or older, who were residing at Al-Wastaniah during the period of the study, 672 (66.5%) were married, 145 (14.3%) were widowed or divorced and 194 (19.2%) were still single. The majority of the single females were under 20 years of age.

Table (II) shows the distribution of the interviewed females (ever married) by age. The ages ranged from 15 to 80 years. Only three (0.4%) were under the age of 16, 184 (22.8%) were 45 years or older. So the majority, (77%) were in the child bearing period.

TABLE II

Distribution of interviewed women  
by age (Al-Wastantaniah 1968)

Age	Frequency	Percent
Under 16	3	0.4
16—19	41	5.0
20—24	116	14.2
25—29	122	14.9
30—34	139	17.0
35—39	122	14.9
40—44	90	11.0
45—49	61	7.5
50—54	53	6.5
55—59	25	3.1
60—64	23	2.8
65+	22	2.7
Total	817	100.0

### Distribution of husbands by age

Table (III) shows the distribution of male partners by age as obtained the wives at interview. In this table men who were currently married to more than one wife (32) were counted only once. The ages of the husbands ranged from 17 to 80 years. Only 5 (0.8%) were

younger than 20 years and 57 (8.9%) were 60 years or older. In general husbands were older than their marital partners. The average age of wives was 33.4 years as compared with 40.5 years for their husbands.

TABLE III

Distribution of husbands by age at interview

Age at interview	Frequency	Percent
Under 20	5	0.8
20—24	42	6.6
25—29	102	15.9
30—34	88	13.7
35—39	106	16.6
40—44	82	12.8
45—49	66	10.3
50—54	58	9.1
55—59	34	5.3
60—69	45	7.0
70+	12	1.9
Total	640*	100.0

\* 32 were married to more than one wife.

#### Distribution of families by the number of surviving children :

The term family was used to describe a social unit established between a couple by marriage regardless of its discontinuity by death of either spouse or by divorce. In Al-wastaniah, accordingly there were 819 families, 672 with both spouses living in matrimony, 145 families in which the wife was widowed or divorced and in only two families the children were living with their father alone. This pattern reflects the rural social customs in Egypt where remarriage of men even the elderlies usually occur shortly after death or divorce of their wives. On the contrary, the chance of remarriage for a female are much less and rather remote.



Table (IV) presents the distribution of females by the number of surviving children. Of the 817 wives entered in this fertility study, 68 (8.3%) had no children, of these, 6 were in their first pregnancy at the time they were interviewed. One hundred wives (12.2%) had a single child, 127 (15.5%) had two, 142 (17.4%) had three, 121 (14.8%) had four and 116 (14.2%) had five children. Families with six or more children constituted 17.5% of the total families studied. The average number of surviving children per family was 3.5. The pattern of distribution of families by the number of surviving children tallies with the general pattern in the U.A.R. (U.A.R. Census 1960).

TABLE IV

Distribution of females by the number of surviving children

Number of children.	Frequency	Percent
0	68	8.3
1	100	12.2
2	127	15.5
3	142	17.4
4	121	14.8
5	116	14.2
6	71	8.7
7	31	3.8
8	32	3.9
9	8	1.0
10+	1	0.1
Total	817	99.9

#### The child woman ratio :

The ratio of the population under five years to women 15—49 years was taken as a measure of effective fertility or the fertility remaining after the bulk of infant mortality has occurred. It was thought to be of value in fertility studies in the U.A. R. where the infant mortality is relatively high (about 100 per 1000 live births). Such a ratio will also be useful in comparing results obtained from this study with data published for other developing countries.

The child woman ratio as calculated from the data obtained during the present survey, shows that the village of Al-Wastanaah, which is fairly representative of any rural agrarian community in the U.A. R., has a very high child woman ratio when compared with the available data from some developing countries with similar demographic characteristics Table (V).

TABLE V

The child woman ratio /1000 females ; Al-Wastaniah as compared with ratios of other developing countries

Country	Child woman ratio/1000	Source of data
Al-Wastaniah (U.A.R.)	1053	Present study
Malaya (Rural).	730	Saw Swee-Hock 1967
Ghana (Rural)	780	Caldwell J.C. 1967
Philippines.	771	Francis Madijan 1965
Costa Rica	886	Carmen A. Miro 1964
Mexico	847	
Dominican Republic	906	
Chilie	764	
Cuba.	792	

Calculating the child woman ratio for own children by age of woman (table VI) revealed, particularly, high ratios in the young age groups. As expected, the highest ratios were for mothers aged 20—34 years. The child woman ratio for mothers under 20 years of age was very high (822/1000) particularly when compared with other communities. Wilson, et al 1965, have shown that the child woman ratio for women under 20 years in Illinois U.S.A. was only 93/1000 which is nearly one ninth that calculated for Al-Wastaniah. This exceptionally high ratio in Al-Wastaniah might be a reflection of some of the values attached to children in the built up of the family as a social unit. Having a child soon after marriage, gives both marital partners a proof of the biologic success of their marriage.

TABLE VI

Child woman ratio for own children by age (Al-Wastaniah.)

Age of mother	Child woman ratio/1000
Under 20	822
20—24	1311
25—29	1756
30—34	1313
35—39	962
40—44	599
45—49	158

**Pregnancy and parity distribution :**

Of the 817 wives interviewed, 37 (4.5%) have never conceived (Table VII). Of these 25 have been married for less than five years and were under 25 years of age and so should not be considered infertile.

TABLE VII

Distribution of the mothers according to the number of pregnancies

Number of Pregnancies.	Frequency	Percent
0	37	4.5
1	65	8.0
2	89	10.9
3	89	10.9
4	93	11.4
5	109	13.3
6	114	14.0
7	74	9.1
8	61	7.5
9	50	6.1
10	15	1.8
11	7	0.9
12	10	1.2
13	2	0.2
14	2	0.2
Total	817	100.0

$\bar{X} = 4.86$  pregnancies.

The frequency of pregnancy among those who were fecund varied from one to fourteen pregnancies. Nearly one in every twenty wives interviewed have had ten or more pregnancies and more than half have already been pregnant five times or more,. The average number of pregnancies per wife was 4.86 with a mode of six pregnancies.

**Distribution of the mothers by the number of live borns :**

Table (VIII) shows that only 51 (6.2%) of the wives interviewed had never given birth to a live born. The number of live borns per woman ranged from one to fourteen with an average of 4.49 and a mode of five live borns. More than one third of the wives have already given birth to six or more live borns and fifty percent had given birth to five or more live borns.

TABLE VIII

Distribution of the mothers by the number of live borns

Number of live borns	Frequency	Percent
0	51	6.2
1	72	8.8
2	95	11.6
3	94	11.5
4	100	12.2
5	117	14.3
6	104	12.7
7	73	8.9
8	47	5.8
9	37	4.5
10	13	1.6
11	7	0.9
12	5	0.7
14	2	0.2
Total	817	99.9

$$\bar{X} = 4.5 \text{ live borns.}$$

In calculating the average number of pregnancies and live births per woman, no allowance was made for the age of the mother or the duration of marriage, both of which would influence the average number of pregnancies and live borns.

To determine the average probable number of pregnancies and live births that would occur to each woman during the child bearing period, the experience of wives who have passed the child bearing period (45 years or older) was studied.

Tables (IX and X) present the distribution of pregnancies and live births among the 184 women who have completed their fertility. Accordingly, a female is expected to conceive on the average 6.1 times and to give birth to 5.88 live borns through her child bearing period. The average number of live borns per woman aged 45 years or older in Panama, Mexico and Cuba are very close to the findings in the present study (5.4, 5.2 and 5.6 respectively (Carmen A. Miro 1964). Higher figures have been reported from rural areas in Puerto Rico and Brazil where a mean of 7.1 live borns was reported (from both) (Irene, B. Taeuber 1966).

TABLE IX

Distribution of women 45 years of age or more  
by the number of pregnancies

Number of pregnancies	Frequency	Percent
0	6	3.3
1	3	1.6
2	7	3.8
3	16	8.7
4	18	9.8
5	27	14.7
6	28	15.2
7	27	14.7
8	23	12.5
9	11	6.0
10	7	3.8
11	3	1.6
12	5	2.7
13	2	1.1
14	1	0.5
Total	184	100.0

$$\bar{X} = 6.1 \text{ pregnancies/woman}$$

TABLE X

Distribution of women 45 years of age or more  
by number of live borns

Number of live borns	Frequency	Percent
0	7	3.8
1	2	1.1
2	13	7.1
3	14	7.6
4	20	10.9
5	28	15.2
6	28	15.2
7	26	14.1
8	20	10.9
9	13	7.1
10	4	2.2
11	4	2.2
12	4	2.2
13	—	—
14	1	0.5
Total	184	100.1

$$\bar{X} = 5.88 \text{ live borns/woman.}$$

#### Age at first pregnancy :

Table (XII) shows that the age at first conception was under 20 years in 70.7% of those who ever conceived and was 25 years or more in only 4.1% of them. The mean age at first conception was 18.4 years. This is a result of the young age of marriage for females in the rural areas in the U.A.R. without any attempt at postponing pregnancy.

#### Number of pregnancies by age of mother at interview :

Table (XII) show the average number of pregnancies by age of the mother at interview. It appears that a woman before reaching the age of 30 years would have been pregnant more than four times and before she is 35 years, she would have conceived on the average

5.3 times. This indicates the necessity to concentrate on women under the age of 30 years in any birth control program. Little benefit, as far as decreasing fertility, will result if those practicing were mainly older than 30 years of age.

TABLE XI

Distribution of mother by age at first conception

Age at first conception	Frequency	Percent
Under 16	116	14.9
16—17	215	27.6
18—19	221	28.3
20—24	196	25.1
25—29	24	3.1
30+	8	1.0
Total	780*	100.0

\* Another 37 have never been pregnant.

TABLE XII

The average number of pregnancies by the age of mother at interview

Age	Mean number of Preg.
Under 20	1.00
20—24	2.09
25—29	4.22
30—34	5.33
35—39	6.14
40—44	6.38
45+	6.10
Total	4.85

Number of pregnancies and period of fecundity :

Table (XIII) shows the mean number of pregnancies by the period of fecundity. Among those married for a period less than five years the mean number of pregnancies was 1.17/ woman. The average

number of pregnancies was almost five among those who were fecund for 10—14 years. These results are very close to values computed by El-Badry 1965 for the different regions of the U.A.R. Accordingly for birth control programs to achieve their goals in decreasing fertility, efforts should be directed primarily to attract recently married females to practice birth control.

TABLE XIII

The average number of pregnancies in relation  
to the period of fecundity

Period of fecundity in years.	Mean number of pregn.
0— 4	1.17
5— 9	3.00
10—14	4.85
15—19	5.77
20—24	6.57
25—29	6.62
30+	6.38
Total	6.10

#### Interpregnancy Interval :

Table (XIV) presents the interpregnancy interval (period between the end of one pregnancy and the beginning of the next) for all wives who conceived more than once i.e. excluding, the one parity group, those who were pregnant for the first time and those who never conceived. The overall average interval was 18.2 months. The Interpregnancy interval was less than one year in 20.6% of cases, one year and less than two years in 52.2% of cases and two years or more in 27.2% of cases.

#### Outcome of pregnancy :

Of the 3939 pregnancies that occurred to mothers in Al-wastaniah, 215 (54.6/1000) terminated in an abortion, 68 (17.3/1000) in a still born and 3656 (928.1/1000) continued to full term and ended in a live born.



TABLE XIV

Distribution of the interpregnancy interval among women who conceived more than once

I. P. interval in months.	Frequency	Percent
Less than 9	78	10.9
9—11	69	9.7
12—17	230	32.2
18—23	143	20.0
24—29	95	13.3
30—35	29	4.1
36—41	31	4.3
42+	39	5.5
Total	714	100.0

#### SUMMARY AND CONCLUSIONS

This fertility study was carried out in a rural community (Al-Wastaniah village) near Alexandria during the period February through April 1968. The population studied totaled 3852 individuals. Information was collected by a questionnaire interview method. The following main results were obtained :

1. The age of wives at interview ranged from 15—80 years with an average of 35.4 years. 77% of them were in the child bearing period (15—45 years). %

2. The age of husbands ranged from 17—80 years with an average of 40.5 years.

3. The average number of children per family was 3.5. Only 8.3% of the families were childless and 17.5% had six or more children.

4. The child woman ratio was calculated as an index of fertility and was found to be 1053/1000 females aged 15—49 years. This rate was higher than that published from other developing countries. The child woman ratio for own children showed characteristically high figures among young married females.

5. The average number of pregnancies per married female was 4.8 pregnancies with a mode of 6. About half of the women have already been pregnant five times or more.

6. The average number of live borns per woman was 4.49 with a mode of five. More than one third of the wives have already given birth to six or more live borns.

7. Studying the fertility experience of females aged 45 years or more it was found that the average number of pregnancies was 6.1 and that of live borns was 5.88.

8. The age at first conception was 18.4 years. In 70.7% of all the females interviewed who ever conceived the first conception occurred when they were younger than 20 years.

9. In the population studied a woman was likely to conceive at least four times before she was 30 years of age.

10. The interpregnancy interval averaged 18.2 months and was less than two years in 72.8% of the instances.

The demographic data obtained in this study indicate, that the fertility in rural areas, as the village of Al-Wastaniah, was high and of such a magnitude and pattern that calls for an immediate active birth control program in which the target population would be primarily young recently married females.

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