

# PREGNANCY WASTAGE IN A RURAL COMMUNITY IN EGYPT

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## ABSTRACT

*This is field study of the outcome of pregnancy in a rural agrarian community in Egypt. Pregnancies were diagnosed as early as possible by an immunological test, and were followed until the pregnancies ended. The study showed that there was an increasing abortion ratio in women younger than 20 years old and those with shorter interpregnancy intervals.*

*There was an increasing foetal death rate in increasing orders of pregnancy and in older women.*

## INTRODUCTION

Information about pregnancy wastage is of primary importance for those working in the field of obstetrics and public Health, and particularly for those who are interested in fertility.

Survey methods, carried out to assess and estimate fertility among different populations, are becoming more popular as the collected data have been found generally more complete than vital registration, not only in relation to births, but also as they include special data not registered in the latter. While the registration of stillbirths is obligatory in many countries, as in Egypt, registration of abortions has been attempted in few only, but still their complete registration as a part of the vital statistics system is not achieved (WHO, 1970). Several reasons are responsible for this failure : (1) Very early abortions are either undetected or, if known, are spontaneous and do not require assistance from health professional.

(2). There is no personal advantage to the woman whether economic or social, in registering an abortion.

(3). A burial permit for abortions before the 24 th. week, is not and cannot be made obligatory.

Abortions coming to the attention of hospitals for treatment or for after-care, represent only a small section of abortions occurring in the community. So, hospital records are not representative of the status of abortion on a community level.

In view of the mentioned limitations of health records, survey, both retrospective and prospective became an essential tool in investigating abortion. The data obtained by retrospective approach, depend upon the memory of women and their willingness to admit abortion, particularly the induced type, whether oriminal or therapeutic. But these surveys also, miss some of the early abortions that might not be known, even to the women themselves.

The aim of this work is to obtain accurate data on abortion and pregnancy outcome in a prospective approach. In this respect pregnancies are followed up from as early a stage as possible, untill they terminate. The more early the identification of pregnancy, the more comprehensive the information will be therefore, if the study starts by identifying women at risk of pregnancy, interviewing them periodically, and carrying an early pregnancy test on them after missing a period or monthly in lactating amenorrhoeic women, and following them regularly, a reliable estimate of abortion can be obtained. Moreover the followup of these women throughout their pregnancy untill its termination, is an accurate way for recording the outcome of these pregnancies.

#### MATERIALS and METHODS

This study was carried out in one of the villages in AlBeheira Governorate, namly «Kome El-Berkah». It is a circumscribed village which represents, to a large extent, the rural population of Egypt. It is about 30 Kilometers away from Alexandria, which made it possible for Dr. N.A. Rizk to visit the village Several tines weekly.

Using the canvasser approach, a complete centus for the village was performed. All currently married women aged 15—45 years ;

who were still menstruating were identified, they constituted the population for the prospective study. Early pregnancy survey, by using an immunologic test was carried out for those who had a missed period for at least 13 days, and was repeated monthly for those who were lactating with amenorrhœa. It was decided to use immunologic testing of early pregnancy, in view of its sensitivity, accuracy and easy applicability in the field. The used test (Gravindex-Ortho), in addition, gives easy to read results in just 3 minutes, and needs no control.

The study started in June 1969 and continued for 2 years. The first four months were devoted for carrying a census and collecting the information from all ever married women.

### *Results and Discussions.*

The female population of Kom El Berkah totalled 1959. It is a predominantly agrarian population with a rather low socio-economic standard (83 % of them had an income less than 5 pounds, per person per month). The illiteracy rate, especially among females, was very high (over 90%). Females aged 15—45 years constituted 23.7% of the total population and 45.2% of the females. Currently married females aged 15—45 years totalled 340 Women. Of these, 302 women could be regarded as potentially exposed to pregnancy, as they were still menstruating and they were the main subject of the study.

### *Results of Pregnancy Survey :*

Throughout the year Oct. 1969.—Sept. 1970, 132 Pregnancies were diagnosed by early testing for pregnancy, and were followed up until they terminated.

### *Distribution of pregnancies by Order :*

Of the total 132 pregnancies ; less than one in ten were of the 1st order. Pregnancies of the 2nd. and 3rd. Orders, were about 1/4 of cases. However, more than 2/3 of recorded pregnancies (89) were of the 4th order or more. Thirty six pregnancies (27.3%) were 4th and 5th, 28 (21.2%) were 6th. and 7th. and 25 (18.9%) were 8th. Or more (Table I).

### *Distribution of Pregnancies by Age of the Mother :*

Of the 132 pregnancies, 20 cases of 15.2 % were under 20 years of age ; while 35 cases or 26.5 % were 20—24 years of age those pregnancies for women aged 25—29 years and 30 years or more were 28 (21.2 %) 49 (37.1 %) respectively. (Table II.)

TABLE I  
Distribution of pergnancies occurring  
October 1969-September 1970  
By their Order.

Order	Frequency	Percentage
1	9	6.8
2	15	11.4
3	19	14.4
3	17	12.9
5	19	14.4
6	13	9.8
7	15	11.4
8	9	6.8
9	5	3.8
10. +	11	8.3
TOTAL	132	100.0

TABLE II  
Distribution of Pregnancies  
by age of the mother

Age	Pregnancy	Percent age
Under 20 years	20	15.1
20—24	35	26.6
25—29	28	21.2
30 +	49	37.1
Total	132	100.0

*Distribution of pregnancies by inter-prognanoy period :*

Of the 132 pregnancies, 52 (39.4%) had a preceding interpregnancy period of less than 12 months, 65 cases (49.2 %) had a period 12—33 months and 15 cases (11.4 %) had a period 36 months or more (Table III).

TABLE III  
Distribution of Pregnancies  
by the preceding interpregnancy period

Inter-pregnancy Period	Frequency	Percentage
Less than 12 months	52	39.4
12—35	65	49.2
36 +	15	11.4
TOTAL	132	100.0

*Outcome :*

The percentage terminating in a live birth was 78.9 %, in a stillbirth was 2.3 % and that in an abortion was 18.8 %.

Of the 25 recorded abortions, 14 cases (56.0%) were of a gestational duration of less than 8 week, 8 cases (32.0%) of a duration of 8—11 weeks and 3 cases (12.0%) were of 12 weeks or more.

This percentage (88 %) of abortions that occurred before the 12 weeks, is more or less the same as that recorded by Alan Brews (1948).

The general abortion rate per 1,000 wives of reproductive age was 73.5, and the abortion ratio was 238.0 per 1,000 live births. The abortion ratio to deliveries was 230.6/1,000 and the abortion rate was 189/1,000 Pregnancy.

*Outcome of Pregnancies by Age of the Mother :*

A direct relation was observed between live birth and age of women, where the percent of live birth was 70.0 % for these under the age of 20 years, 77.1% for women in the age group 20—24 years and 79.3% and 83.7% for women in the age groups 25—29 and 30 + respectively. Stillbirths were only recorded among women in the age group 25—29 (3.4%) and 30 + (4.1%) However, abortion was inversely related to the age of women, where the highest incidence was observed among those younger than 20 years where 30.0% of them had an abortion as compared to 22.9 % for those aged 20—24, 17.2 % for the age group 25—29 and only 12.2 % for women aged 30 years or more (Table IV).

TABLE IV

Outcome of Pregnancies occurring  
October 1969 — September 1970 by age of mother

Age		OUTCOME			TOTAL
		Live birth	Still-birth	Abortion	
Under 20 Years	No	14	—	6	20
	%	70.0	—	30.0	100.0
20—24	No	27	—	8	35
	%	77.1	—	22.9	100.0
25—29	No.	23	1	5	29
	%	79.3	3.4	17.2	99.9
30	No.	41	2	6	49
	%	83.7	4.1	12.2	100.0
TOTAL	No	105	3	25	133
	%	78.9	2.3	18.8	100.0

N.B. One Pregnancy terminated in 2 live births.

This high rate of abortion in women younger than 20 years, could be explained by the fact that they were unaware of the proper hygiene of pregnancy or were probably due to more frequent marital relations.

*Outcome by order :*

The majority of women who were pregnant for the first time and for the 4th and 5th. times delivered a live birth in 88.9% and 86.1% of the cases respectively. However ; more than 2/3 of women who were pregnant for the 2nd and 3rd. times, and more than 3/4 of those who were pregnant for more than 5 times, had a live birth (70.6 %) and 77.8 % respectively). No possible explanation could be found.

As regards the recorded stillbirths (3 cases), all were in pregnancies of the 6th. Order or more.

Potler et al (1965), too, in their study of foetal wastage in the punjab, documented a highly significant correlation between increasing foetal death rates and increasing or pregnancy.

Although table V shows that the 2nd. & 3rd. pregnancy orders seem to be safe as regards stillbirths, yet they had the highest abortion rate, namely 29.4%

TABLE V  
Outcome of Pregnancies occurring  
October 1969 — September 1970 by Order

Order		OUTCOME			TOTAL
		Live birth	Still-birth	Abortion	
1st	No.	8	—	1	
	%	88.9	—	11.1	
2nd and 3rd	No.	24	—	10	
	%	70.6	—	29.4	
4th and 5th	No.	31	—	5	
	%	86.1	—	13.9	
6th	No.	42	2	9	
	%	77.8	5.6	16.6	
TOTAL	No.	105	3	25	
	%	78.9	2.3	2	

*Outcome by the preceding Inter-pregnancy Interval :*

With a preceding inter-pregnancy interval of less than 12 months the percentage terminating in a live birth was the lowest ( 67.3 % ) and abortions & stillbirths were the highest (28.8% & 3.8 respectively). However, with a longer interpregnancy period namely, 12—35 months and 36 months or more, the percentage that terminated in abortion was the least (13.6 %) and (6.7 %) respectively. No stillbirths were encountered with the interval of 36 months or more, (Table VI).

TABLE VI

Outcome of Pregnancies Occurring from  
Oct. 1969-Sept. 1970  
by the preceding interpregnancy interval

Interpregnancy interval	OUTCOME			Total
	Live birth	Still birth	Abortion	
Less than 12 M	35 (67.3)	2 (3.8)	15 (28.8)	52 (99.9)
12 — 35	56 (84.8)	1 (1.5)	9 (13.6)	66 (99.9)
36 +	14 93.3	— —	1 (6.7)	15 (100.0)
TOTAL	105 (78.9)	3 (2.3)	25 (18.8)	133 100.0

DISCUSSION

It is well known that biological factors have an effect on the outcome of pregnancy as well as on maternal mortality.

Generally, the risk of pregnancy wastage becomes greater when maternal age is under 20 years or above 30 years. In the present work, 30.0 % of pregnancies under 20 years of age, ended in an abortion, while the abortion rate in all ages in this group was 18.9 %.



The incidence of stillbirths is greater with advancing maternal age. Stillbirths were encountered only with the age 25 years or more. This was also reported by other workers. In a study of fetal wastage in the punjab (Potter et al, 1965), the risk of fetal loss was shown to be in the order of 105—125 /1,000 pregnancies for women aged 20—34 years, but increased rapidly thereafter to more than 200/1,000 pregnancies during the early forties.

Eastman & Hellman (1961) stated that the two factors, advanced age and advanced parity, occasionally act independently to increase the frequency of stillbirths, usually their effects are additive. Potter et al (1965) in their study of fetal wastage, reported a significant correlation between increasing fetal death rates and increasing order of pregnancy. In the present work, stillbirths were only encountered with pregnancies of the 6th order or more.

Short inter-pregnancy intervals are associated with a high fetal wastage. Eastman (1944) demonstrated a relatively high rate of stillbirths when the interval between births was less than 12 months. Again, Yerashalmy in 1955 demonstrated that relatively short inter-pregnancy intervals, were associated with higher stillbirth rates.

In the present work, pregnancies with birth intervals less than 12 months, ended in abortion in 28.8 % of cases, and in a stillbirth in 3.8% of cases, while the ratios were 13.6% and 6.7% respectively for abortion, when the intervals were 12—35 & 36 + months, and for stillbirths 1.5 % ended in stillbirth.

When the interval was 12—35 months no stillbirths were associated with 36 months or more intervals.

This demonstrated that biological factors, do play a role in pregnancy outcome. So, it is important to reach susceptible women and provide them with family planning services to improve the outcome of their pregnancies. Family planning services, if provided in an efficient, comprehensive way, will be accepted, as a previous KAP study carried out in the same village during the same year Rizk, N.A.R. (1969)., showed that women of this community had a favourable attitude towards family planning.

## CONCLUSION

Family planning is really needed in such rural communities not only because of the population problem but also for the health of the women and their children. Family planning practice, will help to eliminate the effects of the biological factors on the mother and child. Family planning will make spacing between pregnancies possible and this will be useful to decrease the pregnancy wastage. It is also recommended not to encourage pregnancies in a relatively older age.

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