

Childbearing Probabilities During the First Years of Marriage Among Egyptian Women

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Abstract:

Prolonging the period between marriage and the first birth reduces the effective age of childbearing in a woman and thus fewer children during her life. This paper studied the interval between marriage and the first birth in each of the years 2005 and 2014, to see if a change has occurred or not in the length of this interval, the probability of childbearing in it, and the effective factors. The life table and Cox Proportional hazard model were used and the 2005 and 2014 Egypt Demographic and Health Survey. The differences between 2005 and 2014 appeared very slight in the period that 50% of women take to get their first birth after 3 years of marriage, and also concerning the probability of a woman having her first birth during the first three years of marriage. There was no difference between the two years in terms of the variables with a significant effect on that interval, as all the variables included in the analysis showed a very strong effect, except access to mass or social media at least once a week. Place of residence, women currently working and knowledge of ovulatory cycle has a statistically significant negative influence on the interval between marriage and the first birth. While the level of education of both partners, usage of contraceptives, and age at first marriage had a statistically significant positive influence on that period. This study shows that it is necessary to raise awareness of the danger of female marriage under the appropriate age, the need for the couple to be reassured about the continuation of the marriage before deciding to have a child and push poor families to enroll their children in the different stages of education by giving them some financial aid, which compensates them for sending their children to work.

Keywords:Childbearing,Egyptian women, First birth interval.

احتمالات الإنجاب خلال السنوات الأولى من الزواج بين النساء المصريات

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الملخص:

إطالة الفترة بين الزواج والولادة الأولى يقلل من العمر الفعلي للإنجاب لدى المرأة وبالتالي عدد أقل من الأطفال خلال حياتها. درست هذه الورقة الفترة الفاصلة بين الزواج والولادة الأولى في كل من عامي 2005 و 2014، لمعرفة ما إذا كان قد حدث تغيير أم لا في طول هذه الفترة، واحتمال الإنجاب فيها، والعوامل الفعالة. تم استخدام جدول الحياة ونموذج كوكس النسبي للمخاطر والمسح الديموغرافي والصحي لمصر لعامي 2005 و 2014. بدأت الاختلافات بين عامي 2005 و 2014 طفيفة للغاية في الفترة التي تأخذها 50٪ من النساء للحصول على ولادتهن الأولى بعد 3 سنوات من الزواج، وكذلك فيما يتعلق باحتمال ولادة المرأة لأول مرة خلال السنوات الثلاث الأولى من الزواج. لم يكن هناك فرق بين العاملين من حيث المتغيرات ذات التأثير الكبير على تلك الفترة، حيث أظهرت جميع المتغيرات المدرجة في التحليل تأثيرًا قويًا للغاية، باستثناء الوصول إلى وسائل الإعلام أو وسائل التواصل الاجتماعي مرة واحدة على الأقل في الأسبوع. مكان الإقامة، والنساء العاملات حاليًا ومعرفة دورة التبويض له تأثير سلبي ذو دلالة إحصائية على الفترة الفاصلة بين الزواج والولادة الأولى. في حين أن مستوى تعليم كلا الشريكين، واستخدام وسائل منع الحمل، والعمر عند الزواج الأول كان له تأثير إيجابي ذو دلالة إحصائية على تلك الفترة. تظهر هذه الدراسة أنه من الضروري التوعية بخطر زواج الإناث تحت السن المناسب، وضرورة طمأنة الزوجين بشأن استمرار الزواج قبل اتخاذ قرار بإنجاب طفل ودفع الأسر الفقيرة إلى إلحاق أطفالها في مراحل التعليم المختلفة من خلال منحهم بعض المساعدات المالية، مما يعوضهم عن إرسال أطفالهم للعمل.

الكلمات المفتاحية: الإنجاب، النساء المصريات، الولادة فترة الأولى.

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Introduction:

Throughout the ages, Egyptian culture has considered the birth of the first child with the emergence of life signs on this child for any couple, to be one of the most important events. That not only both spouses aspire to, but also both their families, as it is evidence of the fertility of both spouses. Also, proving the ability of a woman to complete the pregnancy period and end it with a living child. But fertility, on the other hand, plays a key role in population growth (Miri & Moghadam, 2018), having direct relevance to population policies and programming in the country (UNFPA, 2017).

After, the 25th of January 2011 revolution, the role of women in work and production was reduced, resulting in lower development rates and thus an increase in the birth rate (Baseera, 2016). But now, Egypt is striving to achieve the 2030 development plan making it in need to reduce its fertility levels. Declining fertility rates are proven to provide an opportunity for low-income countries to achieve rapid economic growth (UNFPA, 2014).

Prolonging the period between the start of a marriage and receiving the first child reduces the effective age of a woman's ability to carry more children; thus giving birth to a fewer number of children during her life (UNFPA, 2011). This period may get affected by several factors, some of which may have negative effects on both the mother and the child. (Hofferth & Reid, 2002) proved that women who had delayed first births, their children did not suffer from behavioral and achievement problems. While the children whose mothers gave their first births at an early age, e.g. teenage childbearing; this action reduced the mothers' probability of completing high school and completing some college compared with women who give birth at age 30 or older (Hofferth, Reid, & Mott, 2001). Also, children of young mothers received fewer resources than children of older mothers (Hayford, Guzzo, Kusunoki, & Barber, 2016).

Therefore, this study aimed to study the factors that affect the interval between marriage and the first birth, during two periods of time 2005 and 2014, and identify the most important of these factors. The possibility was controlling those factors can prolong the period between marriage and the first birth may contribute to overcoming one of the obstacles to create a suitable environment for rapid economic growth. The researchers studied the same interval around the world in terms of length and the most important factors affecting it, but the results of those studies did not agree on the factors that are considered to have a significant impact on this interval. The education level of women has a significant effect on that interval as it was found by (Alam, 2015; Logubayom & Luguterah, 2013; MacQuarrie, 2016; Rahman, Mustafi, & Azad, 2013; Saadati, Bagheri, & Abdolahi, 2018; Shoieb, 1998), but (Hailu, 2015; Mubiru, Atuhaire, Lubaale, & Wamala, 2016) found that it does not have a significant effect.

This may be due to the different characteristics of the different communities under study. Also, most researchers were not interested in making comparisons between different periods within the same country to monitor whether or not there are changes in terms of the duration of this period and the factors surrounding it when moving from one period to another.

Importance:

This study emphasizes the importance of making informed decisions about family planning and emphasizes how various socioeconomic and cultural factors can shape childbearing behavior. By studying these dynamics, policy makers can design targeted interventions to support better family planning practices and contribute to broader social development goals.

In an Egyptian cultural context in which family and community are central aspects of daily life, examining fertility prospects is important. By examining in detail the factors affecting Egyptian women's fertility in the early years of marriage, researchers contribute to a greater understanding of demographic trends, cultural influences and social-economic factors at play. Essentially the importance of research on the rights of Egyptian women to have children in their early years of marriage extends beyond academic research it stands as a shining beacon of an informed decision-making process, improved health practices and a deeper understanding of the complex intercultural interface, public and private choices.

Objectives:

This paper aims to study the interval between marriage and the first birth in each of the years 2005 and 2014¹, in terms of, the length of this interval, the probability of childbearing in it, and the determinants that have a significant impact, to see if a change has occurred or not in those aspects in the periods under study.

Literature Review:

Many researchers around the world have focused on studying the interval between marriage and the first birth, the surrounding factors that may have an impact on that period and the consequences of prolonging or reducing that period, which plays a very important role in influencing the level of fertility and then the size of the population in the community under study.

In terms of variables that the researchers subjected to statistical analysis to determine the significant determinants of that period, we found that women age at first marriage, woman level of education, type of place of residence, woman currently working, husband level of education, region, wealth index, and religion were the variables those had been subjected to statistical analysis in most studies. Also, we found that knowledge of the ovulatory cycle, woman's occupation, partner's occupation, ever use of any contraceptive method, ever terminated a pregnancy, and age at first sexual intercourse are variables with less presence in the studies compared to the variables mentioned before.

Moreover, we found that some other variables had been limitedly used by researchers: (Alam, 2015) has used spousal age difference, and age at first motherhood among the variables subject to statistical analysis; (Rahman et al., 2013) also used access to mass media; but (MacQuarrie, 2016) has used women's decision-making, and toward wife-beating. Man's age at marriage, time-interval between marriage contract and ceremony, family monthly income, covered by insurance, and type of marriage were also seen in the statistical analysis used by (Miri & Moghadam, 2018).

As for the significance of the variables, (Alam, 2015; MacQuarrie, 2016; Mubiru et al., 2016; Rahman et al., 2013; Shoieb, 1998) concluded that a woman's age at the first marriage is a variable with a positive significant effect on the interval between marriage and the first birth. As the age at marriage increases, the risk of a woman becoming a mother increases, and the birth interval decrease. However, these results contradicted the results of the study conducted by (Logubayom & Luguterah, 2013), where they found a significant negative impact on the interval between marriage and the first birth. Regarding women's education level and its role in

The last health survey in Egypt was in 2014 ¹

contributing to the lengthening or shortening of the interval between marriage and the first birth, the studies by (Gurmu & Etana, 2014; Logubayom & Luguterah, 2013; Miri & Moghadam, 2018; Mubiru et al., 2016) concluded that the woman's educational level does not affect on the interval between marriage and first birth. However, the results of others contradicted with this finding, concluding that women's education had a significant impact on the interval between marriage and the first birth. Some of these studies showed significant positive impact, i.e. increased risk of becoming a mother with an increased level of education (Alam, 2015; Rahman et al., 2013; Saadati et al., 2018) while others showed negative significant impact, i.e. reduced risk of becoming a mother with increasing level of education (He, 2020; Logubayom & Luguterah, 2013).

Also, the results of the studies contradicted in terms of the significance of husband education, where some studies showed a partial significance of this variable (Alam, 2015; Logubayom & Luguterah, 2013; Rahman et al., 2013) while other studies demonstrated a lack of significance of this variable (MacQuarrie, 2016; Miri & Moghadam, 2018; Mubiru et al., 2016; Saadati et al., 2018). The interval between marriage and the first birth is shorter for women who know the ovulatory cycle in comparison to women who do not possess this knowledge (Mubiru et al., 2016), as well as for women who ever used contraceptives (Alam, 2015; Rahman et al., 2013). In the study by (Rahman et al., 2013) on the determinants of the interval between marriage and the first birth in Bangladesh, they concluded that there is a significant negative relationship in terms of the risk of women becoming a mother after marriage and the exposure of women to the media, where this risk is less among women who are exposed to the media compared to women who are not exposed to the media.

Urban and rural residence were proven to have no significant effect on the interval between marriage and the first birth by (Alam, 2015; Logubayom & Luguterah, 2013; MacQuarrie, 2016; Mubiru et al., 2016). On the contrary, (Shoieb, 1998) results showed that the relationship between residence and the interval between marriage and the first-birth is significant so that urban women enjoy a longer interval for the first birth when compared to their rural sisters. A woman's employment is a variable that has a significant effect on the period between marriage and the first birth as concluded by (Alam, 2015; Logubayom & Luguterah, 2013; MacQuarrie, 2016; Mubiru et al., 2016; Shoieb, 1998). While the results of (Rahman et al., 2013; Saadati et al., 2018) showed no significant relationship between the woman employment and the interval between marriage and the first birth.

Methodology:

Data sources : The study was based on data from the 2005 and 2014 Egypt Demographic and Health Survey (EDHS) (El-Zanaty & Way, 2006; Health, Population, Associates, & International, 2015), a health survey was conducted on a sample of 21,762 married women in 2014 and 19,565 married women in 2005 aged between 15–49 years at the level of the Arab Republic of Egypt (Excluding North and South Sinai governorates).

Variables and measurements : In this study, the dependent variable is the interval between marriage and the first birth (Time's variable), as expressed in months. All women who had a negative first birth interval are excluded from all analyses (164 women in EDHS, 2014: number of the remaining women = 21,598). First birth intervals of less than 7 months are retained in the analysis. All women who never had a birth at the time of the survey were

regarded as censored. Their time variable was the difference between their current age at the time of the survey and their age at first marriage (age at first cohabitation in 2014). The independent variables are Cultural factors (a type of place of residence, region), Socio-economic factors (woman highest educational level, husband highest educational level, a woman currently working, wealth index, Exposure at least once a week to the media or social media), and Demographic factors (ever use of contraceptives, age at first marriage, and woman knowledge of the ovulatory cycle). Media means: television – radio – newspapers, and social media means: internet – social networking sites.

Data analysis :Life table was used as a non-parametric survival analysis technique to identify the probabilities of Egyptian women childbearing during the first years of marriage by calculating the parity progression ratio (PPR), the Cox proportional hazard model was also used as a semi-parametric to evaluate the effect of multiple determinants on the interval under study. The analysis of this study was done using SPSS-4.

Results:

Life table : The information presented in ([Table 1](#)) shows that there is a very slight increase in the percentage of the woman's prospect of having her first birth during the first three years of marriage in 2014 compared to 2005, reaching 0.5446 and 0.5427 in 2014 and 2005, respectively. The period which 50% of women took to get their first birth after 3 years of marriage had reached 23 months in 2005 and decreased slightly in 2014 to 22 months. Residence ratios in 2014 were not different from in 2005. However, rural women had higher probabilities of having their first birth during the first three years of marriage than urban women by 0.03 in both years. The time required by 50% of rural women to have their first birth in comparison to urban women is different by one month in favor of rural women. The same result is found in both years as well.

Regarding residency, no substantial differences was observed in the numbers for both childbearing probability and median between the two study periods, but it is noticeable that the probability and median are higher among women in rural Upper Egypt than in the urban face in both years. Parity progression ratios (PPR) for the wealth index categories in 2005 decreased from approximately 0.56 for very poor women to 0.53 for women who are classified as middle-class, rich, or very rich levels. Also, there is a noticeable decrease in the ratios for 2014 as we move towards the higher wealth index; we find that the childbearing probability has decreased from 0.5750 for very poor women to 0.5101 for very rich women. This is also the case for the median birth interval, but the decline has been seen in both years as we move towards the higher wealth index, meaning that the time it takes 50% of very rich women to get their first birth is about two or three months less than that of very poor women.

Regarding the probabilities for the levels of education of the husband and the levels of education of the wife, it is noticeable that the values in the two cases are very similar concerning the two periods under study. For the two years data, women with secondary education, women with higher than secondary education, and women married to men with the same education levels had the lowest probability and the lowest median compared to other education categories.

The differences in the ratios of knowledge of the ovulatory cycle and the current working status of the woman in the two years are slight differences in which the probability of childbearing

increases between women who know this cycle and working women than women who do not know this cycle and not working women concerning the 2005 data, and the opposite happens for 2014 data. While the time taken by 50% of women to get the first birth after 3 years of marriage increased among women who do not know that cycle and non- working women than among women who know that cycle and working women in both years by a difference of one month, as demonstrated by the decrease in median values in 2014 compared to 2005 by one month.

Figures for the “ever usage” of any method of family planning indicate the most prominent differences in the median values of childbearing periods and the childbearing probabilities. Where the period that 50% of women took to get the first birth increased among women who had never used a method of family planning than among women who had previously had that in both years by a difference of 20 months and 17 months in 2005 and 2014, respectively. Also, the probability of a woman getting the first birth during the first three years of marriage increased among women who have previously used the methods than among women who have not previously used them, reported in both years.

Table 1: Parity progression ratios (PPR)* and median of the interval from marriage to first birth, thirty-six months (three years) after marriage (2005, 2014)

Women characteristics	2005		2014	
	PPR	Median in months	PPR	Median in months
Total sample	.5427	23	.5462	22
Type of place of residence:				
Urban	.5261	22	.5259	21
Rural	.5545	23	.5622	22
Region:				
Urban governorates	.5296	22	.5222	21
Lower Egypt				
LE Urban	.5500	21	.5177	21
LE Rural	.5589	22	.5606	21
Upper Egypt				
UE Urban	.5065	22	.5234	22
UE Rural	.5536	24	.5607	23
Frontier governorates	.5233	22	.5816	22
Wealth index:				
Poorest	.5597	24	.5750	23
Poorer	.5517	23	.5684	22
Middle	.5337	22	.5571	21
Richer	.5322	22	.5367	21
Richest	.5345	21	.5101	21
Woman highest educational level:				
No Education	.5526	24	.5807	24
Primary	.5652	23	.5811	22
Secondary	.5305	21	.5367	21
Higher	.5290	21	.5084	21
Husband highest educational level:				
No Education	.5401	25	.5742	24
Primary	.5659	23	.5597	22
Secondary	.5388	22	.5421	21

Higher	.5337	21	.5237	21
Woman's currently working:				
No	.5407	23	.5487	22
Yes	.5490	22	.5316	21
Woman knowledge of ovulatory cycle:				
No	.5407	23	.5496	22
Yes	.5497	22	.5386	21
Woman use of contraceptives:				
No	.4054	41	.4325	37
Yes	.5589	21	.5563	20
Woman's age at first marriage:				
≤ 19	.5607	24	.5800	22
20 – 24	.5237	21	.5188	21
25 – 29	.5238	21	.5042	21
30 +	.4263	27	.4816	26
Woman exposure at least once a week to the media				
No	.5674	25	.5396	24
Yes	.5416	22	.5463	22
* (Yadava & Sharma, 2009)				

The ratios for the years 2005 and 2014 show a decrease in the probability that a woman will get her first birth during the first three years as we move to the higher age group, where the difference reached 0.10 and 0.13 between the age groups (≤ 19) and (30+) in 2014 and 2005 respectively. It is noticeable, the period that 50% of women in their twenties took to get their first birth after 3 years of marriage in both years has reached 21 months, a difference of 2 or 3 months for women aged 19 or less, and a difference of 5 or 6 months for women aged 30 or more. Women who are exposed at least once a week to the media or social media are more likely to have a first birth during three years of marriage than women who are not, according to 2014 data. While the opposite was observed in the ratios for 2005, where the ratio was 0.5416 for women who are exposed to media compared to 0.5674 for women who are not exposed to the media.

Also, the period that 50% of women take to get the first birth after 3 years of marriage is higher among women who are not exposed to the media and social media than women who are exposed to it. This by a difference of at least two months, and that in both years. The results of the Wilcoxon Statistic for comparisons of survival distributions of first birth interval presented in (Table 2) show that there were significant differences between the categories of all variables that were entered in the life table analysis in both years, except for women currently working for 2005.

Proportional Hazard Model

To determine the factors which have a significant effect on the first birth interval, the proportional hazard model was used (Cox, 1972; Hailu, 2015). (Table 3) compares 2005 and 2014 results obtained from Cox's proportional hazard regression analysis, which showed no difference between the two years in terms of variables with a significant effect on the first birth

interval. In both years, all the variables introduced in the analysis showed a very strong effect (at the 1% significance level) on the first birth interval, except access to mass or social media at least once a week

Women characteristics	2005			2014		
	Statistic	d.f.	p-values	Statistic	d.f.	p-values
Type of place of residence	96.591	1	.000	60.515	1	.000
Region	178.220	5	.000	186.564	5	.000
Wealth index	203.889	4	.000	243.134	4	.000
Woman highest educational level	442.280	3	.000	528.686	3	.000
Husband highest educational level	333.600	3	.000	298.686	3	.000
Woman's currently working	0.666	1	.414	14.235	1	.000
Woman use of contraceptives	1345.495	1	.000	1721.174	1	.000
Woman knowledge of ovulatory cycle	21.041	1	.000	11.094	1	.001
Woman's age at first marriage	433.238	3	.000	439.876	3	.000
Woman exposure at least once a week to the media	29.697	1	.000	13.509	1	.000

Type of place of residence, women currently working, and knowledge of the ovulatory cycle had a statistically significant negative influence on the interval between marriage and the first birth. Women who lived in urban areas had a lower probability of having the first birth than those in rural areas (7% in 2005 and 5% in 2014). Working women had a long first birth interval than that of not-working women (10% lower risk in 2005 and 6% in 2014). Women who know the ovulatory cycle also had a lower risk of having the first birth than women who do not know this cycle (6% in 2005 and 5% in 2014).

On the contrary, it was found that women's level of education, husband level of education, use of contraceptive, and age at first marriage had a statistically significant positive influence on the interval between marriage and the first birth. Women married to men with primary, secondary, or higher education are at greater risk of becoming mothers compared to women married to uneducated husbands, in both years of study. Wives who used contraceptives had a very high risk of getting the first birth than wives who did not (OR: 3.1 in 2005 and 3.26 in 2014).

For the age of women at marriage, the results indicate that the first birth interval decreased as the age at marriage increased. Thus, women who got married at older ages had their first birth in shorter times than those who got married at younger ages (4% higher risk in 2005, and 3% in 2014).

Discussion and conclusion:

This paper examined the interval between marriage and first birth in two different periods (2005 and 2014) to see if there is a change in the duration of that interval, and the probability of having the first birth during the first three years of marriage, as well as other factors that have a significant impact on this interval. Compared to the results of (Shoieb, 1998) in his study about

Egyptian women and his calculation to PPR and median birth intervals using the data of EDHS, 1995, it was found that the time taken by 50 % of the Egyptian women to have their first birth after three years of marriage has increased in 2005 (22 months) and 2014 (23 months) in comparison to 1995 (17 months) by 5 or 6 months respectively.

The probability that the woman would likely have their first birth within three years of marriage also had declined from 0.7 in 1995 to 0.5 in both 2005 and 2014. This decline may be the result of the change in the nature of Egyptian society, the high age of marriage for males and females, the high rates of spinsterhood and divorce, the high cost of living, and the widespread use of family planning methods.

The results of both studies agreed that the probability that the woman will have their first birth within three years of marriage is lower among urban women (1995, 2005 and 2014 data) and women with education level more than the secondary education (1995 and 2014 data) compared to rural women, uneducated, and less educated women. On the other hand, the results of the two studies differed in terms of the times that 50 percent of the Egyptian women took to have their first birth after three years of marriage, which was shorter among rural women in 1995, while it was about one month higher among this group of women in 2005 and 2014.

The researcher also studied the fertility pattern in the Arab Republic of Egypt as well as fertility trends during the same period and Exploring the fertility trend in Egypt(Al Zalak and Goujon,2017). In another research, the researcher also addressed the reasons behind Why has fertility been increasing in Egypt?(Goujon and Al Zalak,2018).

This interval also increased among women with higher education levels for the 1995 data and was the shortest among women with the same level of education for the 2005 and 2014 data. The Working women had the longest interval according to 1995 data, and the shorter interval according to 2005 and 2014 data (approximately one month difference). The variables found to have a significant effect on the interval between marriage and the first birth are the type of place of residence, woman highest educational level, husband highest educational level, a woman currently working, ever use of contraceptives, age at first marriage, and woman knowledge of the ovulatory cycle.

The risk of a woman becoming a mother is higher among women who have a higher level of education, married to men with a higher level of education, women who have previously used a method of family planning, and women who have a higher age at first marriage. This risk is lower among urban women, working women, and women with knowledge of the ovulatory cycle.

Table 3: Regression Coefficients (B's) and Z Scores (Wald statistic) for the first birth interval in (2005, 2014)

Women characteristics	2005					2014				
	Regression Coefficients (B's)	Standard Error	W	P-values	Exp(B)	Regression Coefficients (B's)	Standard Error	W	P-values	Exp(B)
Type of place of residence										
Rural (RC)										
Urban	-.068	.017	16.277	.000	.934	-.053	.015	12.041	.001	.949
Woman highest educational level										
No Education (RC)			115.999	.000				170.444	.000	
Primary	-.053	.023	5.221	.000	.948	.117	.028	18.048	.000	1.125
Secondary	.190	.023	71.030	.000	1.210	.266	.021	158146	.000	1.305
Higher	.245	.040	37.448	.000	1.277	.347	.033	111.285	.000	1.415
Husband highest educational level										
No Education (RC)			40.195	.000				23.359	.000	
Primary	.060	.023	6.461	.011	1.061	.028	.027	1.152	.283	1.029
Secondary	.133	.023	33.88	.000	1.142	.101	.023	19.594	.000	1.106
Higher	.043	.034	1.602	.206	1.044	.001	.031	8.524	.004	1.096
Type of place of residence										
Rural (RC)										
Urban	-.068	.017	16.277	.000	.934	-.053	.015	12.041	.001	.949
Woman highest educational level										
No Education (RC)			115.999	.000				170.444	.000	
Primary	-.053	.023	5.221	.000	.948	.117	.028	18.048	.000	1.125
Secondary	.190	.023	71.030	.000	1.210	.266	.021	158146	.000	1.305
Higher	.245	.040	37.448	.000	1.277	.347	.033	111.285	.000	1.415
Husband highest educational level										
No Education (RC)			40.195	.000				23.359	.000	
Primary	.060	.023	6.461	.011	1.061	.028	.027	1.152	.283	1.029
Secondary	.133	.023	33.88	.000	1.142	.101	.023	19.594	.000	1.106
Higher	.043	.034	1.602	.206	1.044	.001	.031	8.524	.004	1.096

RC = Reference category

Egypt's rural areas are still somewhat dominated by the culture of early pregnancy after marriage, and moving away from the idea of postponing pregnancy. If not for the desire of the spouses or one of them, it will be to please their parents or because of the pressure imposed by the parents on the husband and wife. Also, the working woman often does not find the time to care for a child, especially if she does not find help from her family compared to the non-working woman. This is what often causes her to postpone the idea of planning to have a child once she gets married.

The results of Cox's analysis provide evidence for increasing the risk of women becoming mothers between rural and unemployed women compared to urban women and working women, which means a short interval between marriage and the first birth of rural Egyptian women and non-working women. This result was in agreement with (Shoieb, 1998) findings in his study about Egyptian women. The results of the life table also supported this result, where the probability of the first birth within three years of marriage among women living in rural areas (.56) is higher than among women who live in urban areas (.53), and this is for both years under study.

The same is true for the 2014 working status data (there is little difference for 2005 data). A slight difference was found that does not exceed a month between urban and rural women, as well as between working and non-working women in terms of the time 50% of women take to have the first child. An educated woman is more surrounded by information about reproductive

health in general; the same applies to women married to an educated man who can provide her with the correct information or active participation in decisions related to the reproductive process. And the higher the educational level of one or both spouses, the greater the degree of awareness and good behavior in all matters related to the reproductive process.

This explains the high risk of women becoming mothers among most groups of more educated women and women married to more educated men compared to uneducated women and women married to uneducated men. This result is in agreement with the findings of (Alam, 2015; Rahman et al., 2013; Saadati et al., 2018). Also, it does not contradict what the results of the life table showed, as the woman's ignorance and her limited education or the husband's ignorance and his limited education work on the poverty of awareness and information and then the inability to control the timing of pregnancy and then prolong the period between marriage and the first birth somewhat.

The period during which a woman can have a child is a limited period that often ends at the age of 49 years, and the chance of becoming pregnant during that period decreases as the woman approaches this age. The woman who marries for the first time at a later age realizes that the remaining period is limited for her to be able to become pregnant. Therefore, she tends to be more eager to get pregnant once she gets married, especially if she wants to have several children and spacing them in a way that can maintain her health and the fetus's health and the ability to give him the right of care and attention.

This may explain the very slight risk of maternity among women who have a higher age at first marriage. This was consistent with the results of many researchers (Alam, 2015; MacQuarrie, 2016; Mubiru et al., 2016; Rahman et al., 2013; Shoieb, 1998). While the results of the life table showing the less probability in terms of the times that 50 percent of women took to have their first birth after three years of marriage among women who have completed 30 years or more, compared to women in their twenties or younger, this is because the woman has a lower chance of getting pregnant after this age, in addition to showing the highest median, as a large number of these women cannot get pregnant once they get married unlike what happens with younger women. The pregnancy of old aged women requires a longer period, and she may need medical intervention, and this is for both years under study.

The woman's knowledge of the ovulation cycle means the woman's awareness of pregnancy suitable time giving her the ability to control the timing of its occurrence. This happens by either reducing or prolonging the interval between marriage and the first birth. In addition to, family and social circumstances surrounding that woman, and all of this inevitably affects this timing. The period under investigation may be proven to belong to women who have knowledge of the ovulation cycle in some studies and may be proven to be short to the same group of women in other studies due to the nature of the characteristics of their societies and the conditions that surrounding family life.

In Egyptian society, it is noted that the low standard of living for most modern marriages and the high rates of divorce at the beginning of marriage may cause women to delay the first pregnancy for some time at the beginning of marriage lowering the risk of maternity, which is contrary to the results of (Mubiru et al., 2016) in his study on Uganda. This finding does not contradict the results of the life table, as it was noted that the results of the life table in both years were slightly different. Whether in the probabilities of childbearing or the median of

reproductive periods, and it was represented by a one-month difference in favor of women who do not know the ovulation cycle, resulting in either a long or short period.

Women were asked if they had previously used any contraceptive methods at the time of the survey and taking into consideration that it may have been a long time after she got her first birth, This may attribute the increase in the risk of women becoming mothers among women who have previously used a family planning method about three times the women who have never used any contraceptive means. A woman who may obtain her first child after a short period of marriage often resorts to using a method of family planning until the date she decides again to obtain her second child.

These findings were consistent with results from the studies by (Alam, 2015; Rahman et al., 2013) in terms of the increase in the risk of women becoming mothers among women who had previously used a method of family planning. These results were also consistent with the results of the life table, as it was observed that there was a decrease in the time taken by 50% of women to get their first birth among women who had previously used a family planning method by 20 and 17 months in 2005 and 2014, respectively, in comparison to the women who had never used any contraceptive methods.

Moreover, there has been a noticeable increase in the probability of a woman getting her first birth during the first three years of marriage among women who had previously used a method of family planning than among women who had never used a method of family planning.

In conclusion, there were no differences between the two years under study in terms of the length of time between marriage and the first birth, the probability of having children during the first years of marriage, as well as factors having a moral impact on that period. The chances of having children are higher among younger women, so awareness of the dangers of early marriage should be made in terms of damages to the mother, child, and the state in general, and this should be reinforced by laws that criminalize marriage of girls beneath the legal age.

Indirect methods are often helpful in achieving goals, so regarding the high rates of divorce in Egyptian society in recent times, the study likes to focus on the important role of different media to raise the awareness of Egyptian women. Especially, in rural areas, in terms of extending the period between marriage and the first birth to the extent that both the husband and wife are assured that each of them can complete this marriage with the other party before deciding to have a child, this will benefit the mother and the child, in addition to working to reduce the effective age of a woman's ability to carry more children.

Also, the media should work on raising awareness about the period during which pregnancy can occur and how a woman can determine that period so that she can control the occurrence of pregnancy if she is convinced to exclude the idea of pregnancy once the marriage. The chances of having children were higher among illiterate women and who was married to illiterate men, so the state must work to push poor families to enroll their children in the different stages of education by giving them some financial aid, which compensates them for sending their children to work.

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