



Early Marriage Determinants and Effects on Mothers and their Offspring in Beni-Suef City

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Abstract:

Marriage timing is one of the important determinants of birth rates and health profile of both the mothers and infants. Child marriage is recognized as a major development issue that affects girls in many developing countries. The practice has been linked to several health risks, higher fertility, and lower education attainment. The aim of the current study was to estimate the prevalence and assess the determinants and effects of early marriage in Beni-Suef City. This was a cross sectional study was conducted from December 2019 to December 2020. Data were collected from 600 participants using a structured questionnaire. This study provide that the prevalence of early marriage was found to be 16.2% with 59.3% mothers residing in rural areas and 83% belonging to Muslim religion. Lower educational level (less than secondary school) and consanguinity were found to have significant association with early age of marriage. 41.2% of the mothers who married before the age of 18 years faced complications during delivery. 52.2% of the mothers married before the age of 18 years gave birth to low-birth-weight babies. Early age of marriage is an important public health challenge. Hence, a national multi-sectorial approach must be targeted to reduce this phenomenon.

Keywords: Determinants, Early marriage, Effect

1. Introduction:

Marriage is one of the important social pillars that affect the structure of the population. Timing of marriage has its major effects on birth rates and health profile of both the mother and infant [1]. Early marriage, also referred to as child marriage, is defined by

UNICEF as any marriage carried out below the age of 18 years, before the girl are physically mature and psychologically developed, and become ready to carry the responsibilities of the marriage and child bearing [2]. In many communities, child marriage is a long-standing tradition since a delayed marriage would not be acceptable to the community. Getting a

daughter married early may also be seen as a mean of ensuring her and her family's safety. Sexual abstinence and virginity are also considered important values that if not protected will affect the family honor. Moreover, in families where parents cannot provide daughters a safe socio-economic space to live and grow into a confident and self-sufficient independent individual, child marriage takes priority over education as a mean of protection from risks such as physical and economic abuse. [3]. Regardless of its roots, child marriage constitutes a gross violation of human rights, leaving physical, psychological, and emotional scars for life. While marriage is not considered directly in the convention on the rights of the child, child marriage is linked to other rights such as right to express their views directly, the right to protection from all forms of abuse and the right to be protected from harmful traditional practices.¹ Sexual activity starts soon after marriage, and pregnancy and childbirth at an early age can lead to maternal as well as infant morbidity and mortality. [4]. Child marriage is recognized as a major developmental issue that affects girls in many developing countries. The practice has been linked to a number of health risks: higher fertility, and lower education attainment. The negative impact of child marriage on girl's health, education, and well-being is often profound when the girl marries very early; for example, it is known to have a negative impact on school enrollment and

attainment. The earlier a girl marries, the more likely she drops school classes early and thereby has a low level of education attainment limiting her employment and earnings potential for the rest of her life [5]. Early marriage adversely affects the health of the mother and her newborn. Complications of pregnancy and childbirth are the leading cause of death in young women aged 15-19 perinatal deaths are 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20 to 29. The newborns of these mothers are also more likely to have low birth weight, with the risk of long-term effects [6]. The negative impact of child marriage on a wide range of development outcomes explains why in many countries, child marriage is now prohibited by law, and why the elimination of child marriage is part of the new Sustainable Development Goals [7]. According to the Egyptian law, the right to marry is defined by a series of conditions, namely the requirement of the spouses consent for the marriage to be valid; the existence of a minimum required age for marriage; and the obligation to officially register the marriage. The absence of these conditions amounts to a violation of the right to marry or not [8]. While marriage is considered a choice, Egyptian laws clearly sets age of marriage to be 18 years for both sexes. Child marriage is recognized as a human right violation on both the national and the international levels [9]. In Egypt, based on DHS 2014, one in six women ages 18-22

marries below the age of 18, and a smaller proportion do so before the age of 15 [10].

2. Patients and Methods:

2.1. Study type and sampling:

This cross-sectional analytical study was conducted from December 2019 to December 2020. Three randomly selected health facilities at Beni-Suef City including one governmental (Beni-Suef University Hospital), one private hospital (El-Zahraa hospital) and one primary health care center (El ghamrawy PHC) was randomly chosen. Sampling was strictly limited to married mothers attending for any health service in the three randomly selected health care facilities.

The sample size was calculated using open Epi (Open Source Epidemiologic Statistics for Public Health) version 3, open-source calculator to calculate sample size. The following criteria were set; Prevalence of early marriage in Egypt is 11 % (Egyptian Ministry of Health, 2018) with a confidence level 95% and margin error 5%, the estimated study participants were 385 subjects but the study sample was 600 participants to increase the power of the study.

2.2. Data Collection Methods:

A structured questionnaire prepared in English language then translated into Arabic language was used for data collection, and then it was pilot tested on 50 mother without changes in the questionnaire and their result included in

the study. Finally, the questionnaire was designed to cover 4 parts:

Part 1: socio-demographic characteristics of study participants including age of marriage, educational status of participants, educational status of their father's and mother's, residence and consanguinity.

Part 2: early marriage determinants included (8 determinants) social norms, poverty, illiteracy, consanguinity, delayed marriage, to be like their married friend, girls don't have the right to say their opinion in their marriage and financial benefits.

Part 3: the effect of early marriage on participant's health and their off springs included preterm labor, prolonged labor, delivery complication, complications of newborns, neonatal Intensive Care Unit admission.

2.3. Data Analysis:

- All collected questionnaires were revised for completeness, and logical consistency and reliability by using krombach alph test which was (.83) and items were then transferred to the Statistical Package of Social Science Software program, version 25 (SPSS) to be statistically analyzed.
- Descriptive statistics for the socio-demographic characteristics of participants, and surveyed items were first analyzed:
 - Description of qualitative variables was done by frequency and percentage.

- Description of quantitative variables was in the form of mean and standard deviation (mean \pm SD).

- Graphs were used to illustrate simple information.

- Suitable statistical tests were used (Chi-square (χ^2) and Independent T-test), P-values equal to or less than 0.05 were considered statistically significant.–

- The data of the completed questionnaires for 600 participants were entered into an excel sheet then imported to SPSS for data analysis (version 25).

- Simple statistics were used, bivariate analysis between those married at age less than 18 and those married at age more than or equal 18 years old. Chi Square test of significance was used to detect statistically significant difference between the two groups regarding the independent variables, with confidence limit at 95% and p value \leq 0.05. The data had been presented in tables, graphs and figures and organized to satisfy the study objectives.

2.4. Ethical Consideration:

All the individuals included in the study had been informed about the procedures regarding the study and informed of their rights to refuse participation or withdraw from the study without having to give reasons. Participants were guaranteed anonymity and all information provided would be treated with confidentiality. Before the interviews, a written consent and statement of voluntary participation of the participants was obtained after they were

informed about the purpose of the research and how it will to be conducted, as well as the fact that the interviews would be recorded. The required administrative regulations were fulfilled. The ethical approval of the faculty of medicine, Beni-Suef University research ethical committee (REC) was obtained prior to the beginning of the work (Approval No:FMBSUREC/03092019/Refaie).

3. Results:

The present study included 600 married mothers the prevalence of early marriage was found to be 16.2% (figure 1). Table (1) showed that 42.1% of fathers of late married mothers completed secondary educated level, while illiteracy was more prevalent (47.4%) among early married fathers ($P < 0.001$). Similarly; 48.4 % of mothers of late married mothers completed secondary education level, and illiteracy was more prevalent (78.3%) among early married mothers ($P < 0.001$). Majority of participants who married < 18 years of age residing in rural areas (76.3%). ($P = 0.001$). Educational illiteracy was more prevalent among early married participants ($P < 0.0001$). Consanguinity was more common (41.2%) among early married mothers. ($P = 0.005$). Also 76.3% mothers who were residing at rural areas got married before the age of 18 years as compared to 23.7% mothers residing in urban areas and this difference was found to be statistically significant (Table 1).

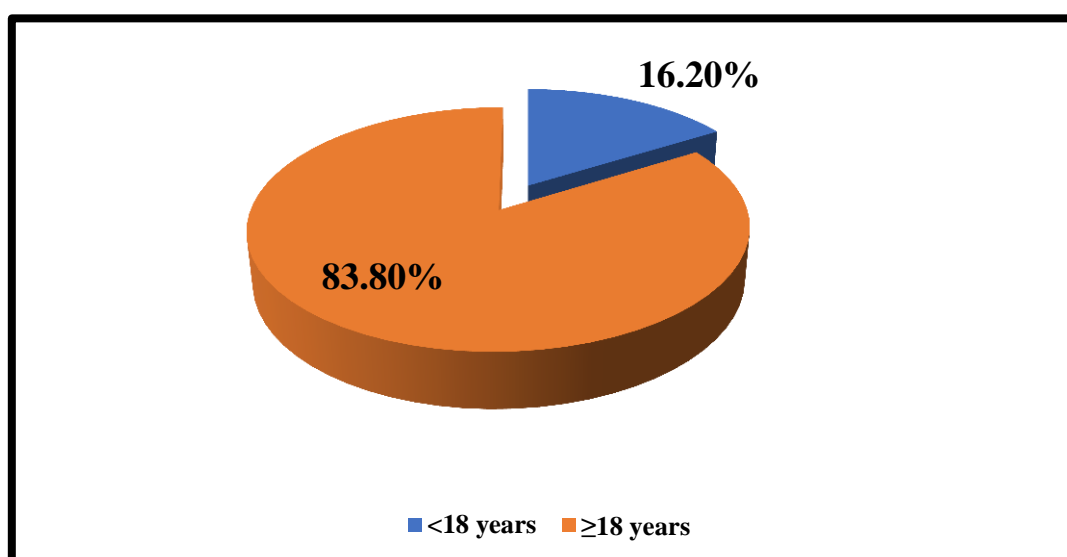


Figure (1): Prevalence of early marriage among Participants.

Table 1: Association between age at marriage and some selected socio-economic variables:

		Age at Marriage				<i>P-value</i>
		<18 years No= 97		≥ 18 years No= 503		
Fathers' educational level	Illiterate	46	47.4	97	19.3	<0.001*
	Write and read	22	22.7	74	14.7	
	Primary, preparatory, and secondary	26	26.8	212	42.1	
	University and postgraduates	3	3.1	120	23.8	
Mothers' educational level	Illiterate	76	78.3	160	31.8	<0.001*
	Write and read	7	7.3	44	8.7	
	Primary. preparatory and secondary	14	14.4	243	48.4	
	University and postgraduates	0	0.0	56	11.1	
Educational level	Illiterate	17	17.6	14	2.8	<0.001*
	Write and read	24	24.7	20	4	
	Primary, preparatory and secondary	52	53.7	235	46.7	
	University and postgraduate	4	4.1	234	46.5	
Residence	Rural	74	76.3	282	56.1	<0.001*
	Urban	23	23.7	221	43.9	

Occupation	Not Working	76	78.4	332	66	0.033*
	Working	21	21.6	171	34	
Consanguinity	Present	40	41.2	133	26.4	0.005*
	Absent	57	58.8	370	73.6	

Table (2): Early marriage determinants among participants:

Early Marriage determinant*	Age at Marriage				Total		P-value
	<18 years		≥18 years		N	%	
	No= 97		No= 503				
	N	%	N	%	N	%	
Social Norms	58	59.8	410	81.5	468	78.0	<0.001*
Illiteracy	44	43.4	273	54.3	317	52.8	0.120
Poverty	16	16.5	151	30	167	27.8	0.006
Consanguinity	7	7.2	64	12.7	71	11.8	0.236
Fear of delayed marriage	25	25.8	119	23.7	144	24.0	0.697
To be like their married friends	18	18.4	99	19.7	117	19.5	0.889
To get any financial benefits	17	17.5	80	15.9	97	16.2	0.654
Families believe that girls don't have any opinion in their marriage	18	18.5	74	14.7	92	15.3	0.356

*Data is presented as No (%) of positive responses by participants

Table (3): Association between age at marriage and its impact on health of the mother and newborn:

		Age at Marriage				P-value
		<18 years		≥ 18 years		
		No= 97		No= 503		
		No	%	No	%	
Prolonged labor	Yes	44	45.4	141	28	0.001*
	No	53	54.6	362	72	
Pre-term labor	Yes	37	38.1	83	16.5	<0.001*
	No	60	61.9	420	83.5	
Complications of delivery	Yes	40	41.2	148	29.4	0.022*

	No	57	58.8	355	70.6	
Complication for newborns	Yes	44	45.4	125	24.8	0.001*
	No	53	54.6	378	75.2	
Type of complication***	Low birth weight	22	50	60	48	0.012*
	Preterm	8	18.3	21	16.8	
	Congenital anomalies	4	9	12	9.6	
	Jaundice	10	22.7	32	25.6	
Neonatal Intensive Care Unit admission	Yes	43	44.3	133	26.4	0.001*
	No	54	55.6	370	73.6	

Table (2) showed that 78% of participants reported that social norms were the most leading cause of early marriage followed by illiteracy (52.8%). Table (3) showed that prolonged labor was reported in 45.4% among early married participants while 72% of late married ones *did not report prolonged labor*. (P=0.001). Early married women had reported 41.2% delivery related complications compared to 29.4 % for late married ones (P=0.022). Fetal complications were higher among early married mothers (45.4%) and low birth weight was the most common reported complication (52.2%).

4. Discussion:

(1) Prevalence of early marriage:

Among 600 women; 16.2% had early marriage in Beni-Suef city (Table 1). A finding which is nearly similar to the 19.4% reported in Menoufia governorate and little lower than 25.4% reported in Souhag governorate [11]. This difference might be explained by the fact that the current study was carried out in a city not in a governorate including rural areas. In addition, our study results are much lower than the 44.8% and 78.2% reported in Injibara town, North West Ethiopia among 373 married women (Bezie and Addisu, 2019) and in Bangladesh among 17,842 ever-married Bangladeshi women [12] respectively. Furthermore regional estimates of early

marriage for girls include 48% in Southern Asia, 42% in Africa and 29% in Latin America and the Caribbean and in the West African sub-region, the proportions of girls affected vary from 28% - 43% (Ghana, Togo, Cote d'Ivoire, Senegal, Benin, Nigeria) to 60-80% (Burkina Faso, Guinea, Mali, Chad and Niger)[13]. This difference could be due to the difference in cultural, traditional, religious and social norms between the study areas.

(2) Determinants of early marriage:

Parents' educational level: 47.4% and 78.3% of participant's fathers and mothers were illiterate respectively (Table 1), similar to the reported 46% and 77% illiterate fathers and mothers in a study conducted in an urban Indian area among 900 participants [14].

Participants' educational level: females with less than secondary educational level were 5 times more likely to have early marriage compared to those with higher educational level (Table 1). This is in agreement with EDHS, 2014[15] report and a similar national study conducted in Sohag governorate among 640 married women as showed in this study 533 participant were less than secondary educational level compared to 107 participants were higher educational level [16]. This reflects the importance of female education in reducing early marriage.

Residency: Early marriage was prevalent in rural areas (76.3%) (Table 1); in agreement with Egypt Demographic and Health Survey [16] data reporting a 4 years younger marital age in rural Upper Egypt and similar to the high prevalence of early marriage in rural African areas [17] ,[18] and in Bangladesh [19]. In Egypt, early marriage is associated with lower socioeconomic status and lower education levels in rural areas.

Work status: 78.4% of early married participants were not working (Table 1), similar to a study conducted in the Middle East and North Africa reported that marrying at early age affects the probability of work negatively demonstrating the phenomena that women's domestic workload after marriage is higher than before [20].

Consanguinity: among participants <18 years of age; 41.2% had consanguineous marriages compared to 58.3% of non-consanguineous

marriages ($P=0.005$) (Table 1). This finding is lower than the reported 64.4% consanguineous marriages and 35.6% non-consanguineous marriages ($P<0.05$) in similar study conducted in six Egyptian governorates: three from Upper Egypt (Sohag, Assuit and Menia) and three from Lower Egypt (Sharkia, Behira and Ismalia) with a total sample size of 15279 women aged 15-49 years [21]. In addition, a study was conducted to detect the frequency and pattern of consanguineous marriage among a sample of Egyptian population residing in three governorates; one in Lower Egypt (Cairo) and two in Upper Egypt (Assuit and Sohag), reflected the overall frequency of consanguinity in Egypt is (35.3%), and was significantly highest in the females with age range of 15–25 years (70.7%), [22]. The same was also reported in other areas of Egypt as well as in other Arab countries [23]. On the other hand, a study conducted in the province of Antalya, Turkey stated that the frequency of consanguinity did not vary in different age groups [24]. The differences may be related to relatively smaller sample size and the fact that the present study was conducted in one city only.

Determinants among participants: Social norms play very important roles in the lives of people. Participants reported that social norms constituted 78% as a cause for early marriage and poverty constituted 27.8% (Table 2). Similar to a study conducted at Cairo University with a total sample size of 200

early married participants reported that participants' opinion agreed that culture and tradition are a main cause by 79% and poverty was the cause in 26% [25]. The most important determinants of early marriage were related to traditional, cultural lack of awareness of hazards of early marriage, and poverty. (Table 2) Similarly, several studies conducted in Bangladesh and Sudan [26], [27] and [28] showed the same findings, these studies emphasized on the importance of girls' education to prevent early marriage.

(3) Effect of early marriage:

Delivery complications constituted 41.2% among <18 years of age participants compared to 29.2% for late married ones ($P=0.022$). (Table 3). This finding was similar to a Nigerian study where 54.4% of early married women reported delivery complications and 37.9% of them experienced partum and post-partum hemorrhage [29]. There was a highly significant difference between early and late married participants in relation to prolonged and pre-term labor ($P=0.001$). (Table 3). This agrees with a study conducted in an urban Indian area among 900 participants [30]. This might be due to the fact that anatomic immaturity of the reproductive tract in a younger woman may lead to higher proportions of cephalo-pelvic disproportions thus increasing the chances of labor complications. Complications among newborn were reported in 45.4% among mothers <18 years. The most common complication was

low birth weight (50%). This is in accordance to a study conducted in Delhi, India reporting that low birth weight babies were more common among mothers less than 20 years (30.8%) compared to mothers above 20 years of age (25.3%) [31]. This can be explained by the fact that adolescent girls are more vulnerable to social and health related risks, including increased rates of poverty, maternal depression and malnutrition.

NICU admission was reported to be higher in early married participants compared to late married ones ($P=0.001$). (Table 3). This is in agreement with a study conducted in an urban area of Davangere where there was a significant difference between early and late married participants as regard NICU admission ($P=0.016$) [30].

5. Conclusion and Recommendations:

Child marriage behavior has been linked to other unhealthy behavior like consanguinity, lower level of education and probably other unwanted behaviors like high fertility and higher rate of pregnancy and delivery complications. An integrated program tackling all these health issues will be of value in reducing this behavior and improving women health.

6. Limitations:

The total sample size of women who got married before the age of 18 years in our study (97) was small. The study was conducted in a

city which may not reflected the real burden of the problem.

Scope for further research

As the present study only looks at the impact of early marriage on the health of the mother and the newborn further studies can be undertaken which look at the impact of early marriage on the psychological and social wellbeing of the woman.

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