

Original Research Article

A population-based study of teenage marriage in Upper Egypt

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ABSTRACT

Background: Early marriage of teenage girls before the age of 18 is a serious problem concerning public health that perils the girls' childhood in developing countries. The current study aims to highlight the socioeconomic background and the adverse drawbacks of teenage marriage in Upper Egypt.

Methods: A population-based, cross-sectional study was conducted on 962 married females who were selected randomly by using a multistage random sampling technique. The participants were attending four urban and four rural primary health care facilities in Beni-Suef governorate, Upper Egypt in the period between May 2018 and October 2018. An interviewing questionnaire was designed to detect the suspected socio-demographic factors associated with teenage marriage.

Results: The mean age of marriage of the studied participants was 18.7±3.5 years. The study revealed that 50.8% of the studied population was 18 years or less at marriage versus 49.2% married at age more than 18. Also there is a significant difference between the age of marriage and the educational level of both husbands and wives ($p < 0.001$). The rate of accidental hemorrhage (3% versus 1.4%), placenta previa (2.2 versus 0.6%), eclampsia (1.8% versus 0.4%), and intrauterine growth restriction (3% versus 0.6%) were significantly higher in those married before 18 years ($p = 0.028, 0.036, 0.038, 0.005$, respectively).

Conclusions: This study demonstrated a significant relationship between the marital age and the implicated socio-demographic determinants. Adverse sexual relationship and pregnancy outcomes were significantly related to the age of marriage.

Keywords: Teenage marriage, Upper Egypt, Socio-economic motives

INTRODUCTION

Leakage from education and dropping out of the school are serious negative outcome of teenage marriage that have an effect not only the individuals but also the rest of the community.¹ Underage marriage is a marriage of a child under 18 years of age. Over 60 million girls are married before 18 years old worldwide.² Although underage marriages includes both boys and girls, most children

married under the age of 18 are girls. In Sub-Saharan Africa and Bangladesh over 60% of girls are married under the age of 18. Underage marriage is a human violation and the United Nations declared that this marriage violates human rights and children's rights.³ Underage marriage put the girl at a higher risk of depression and sexual transmitted infections, preterm birth and low birth weight outcome.⁴ Egypt had a high rate of teenage pregnancy and maternal mortality.⁵ Young females in Egypt still face a

number of challenges regarding their reproductive health (RH) despite efforts to enhance it. Importance of young women's reproductive choices arises from the concept that early childbearing can impair their health and their productive participation in community.⁶ The incidence of teenage pregnancy is high in Upper Egypt accounting for about 17% of all pregnancies.⁷

Teenage pregnancy is a serious problem in both developed and developing countries. The pregnancy rate among teenagers varies according to their levels of sexual activity, sex education and access to affordable contraceptive options among countries.⁸ Thus, this study was designed to highlight the socioeconomic background and to outline the adverse drawbacks of underage marriage on teenage wives in Beni-Suef governorate, Upper Egypt and to provide the policy makers with fundamental data to reduce the prevalence rate of this practice.

METHODS

A population-based cross-sectional study was carried out in Beni-Suef governorate, Upper Egypt in the period between May 2018 and October 2018. A multi-stage random sampling technique was used to select 962 married females who were attendants of eight primary health care facilities (four in urban areas and four in rural areas) for primary health care services.

For sampling, Beni-Suef Governorate in Upper Egypt was divided administratively and stratified into 7 districts: Beni-Suef, El Fashn, Elwasta, Somosta, Nasser, Beba and Ehnasia.

First stage

Out of the seven districts in the target Governorate, four districts (Nasser, Beni-Suef, El Fashn, and Beba) were randomly selected.

Second stage

An urban and a rural primary health care facility from each district were randomly selected using card draws.

Third stage

All married women attending the selected eight primary health care facilities for any health services during the six months of data collection were invited to participate in the study.

However only 962 out of the total 1038 married women who attended the health facilities agreed to participate in the research (non-response rate was 8.1%). Out of them, four districts were selected randomly. An urban and a rural primary health care facility from each district were randomly selected by card withdrawal. The sample size was calculated using Epi-info version 7 Stat Calc, [Centre for Disease Control (CDC), World Health Organization

(WHO)], considering that the confidence level of 95% and margin of error of 5%.

The necessary approvals from the heads of the visited health facilities were taken after explaining the aim of the study. The participants were informed the purpose of the research and written consent was obtained before participation. They were assigned to fulfil the designed interviewing questionnaire.

Selection criteria

All married women who were willing to participate in the study were included in the sample. Informed consent should be obtained after the participants had been informed about the purpose study. The unmarried women were excluded from the participation in the study

On the basis of previous researches, an interviewing questionnaire was designed consists of three sections.^{7,9-11} The first section included the socio-demographic characteristics such as age, religion, age of the husband, marital age, age of first menarche, circumcision, educational level and age of educational leakage if any. The questionnaire highlights on parental characteristics such as residence, educational level, family size, crowding index and type of family (complete or separated).

The second section included marriage circumstances such as duration of marriage, consanguinity, forced marriage, living with relatives, and exposure to domestic violence. Aspect of sexual relationship was included as exposure to a painful experience during the first sexual intercourse (exposure to violence, bleeding and laceration), exposure to sexual violence, avoiding intimacy, husband's emotional support, husband's sexual satisfaction and wife's sexual satisfaction.

The third section outlines the obstetric and gynecological history and pregnancy complications such as number and type of deliveries, abortion, sexually transmitted diseases, use of contraception methods intrauterine growth restriction (IUGR), eclampsia, placenta previa and accidental hemorrhage. The third section of the questionnaire was completed only by women who had a history of pregnancy.

A pilot study was carried out on 40 teenage wives for testing the reliability of the designed questionnaire. It was found that the Cronbach's alpha validity was 0.77. The validity of the questionnaire was judged by a professor of Public Health and Community Medicine.

Statistical analysis

Collected data were entered into a Microsoft access database and then analyzed by using Statistical Package for Social Science (SPSS Inc, Chicago, Illinois, version 21). We tested the normality of the continuous data using the Shapiro-Wilk test. Normally distributed data are presented

as mean and standard deviation (SD) and analyzed by student's t-test. Chi-square test was used to estimate the significant value in the categorical variables. $P < 0.05$ was considered to be significant.

RESULTS

The study included 962 participating women. Table 1 presents the socio-demographic characteristics of the participants who completed the study questionnaire. The mean age was 32.5 ± 7.1 years for wives and 41.4 ± 7.2 years for their husbands. Out of the participants, 64.1% had low family income, 44.2% had higher education degrees as opposed to 65.2% of their husbands. About half of the participating women (51.4%) were working and 69.8% were Muslims.

Table 1: Socio-demographic characteristics of the participating women.

Characteristics	n=962	Percent (%)
Age of the wife (Mean±SD) years	32.5±7.1	
Age of the husband (Mean±SD) years	41.4±7.2	
Family income		
Low	617	64.1
Moderate	306	31.8
High	39	4.1
Wives' Education		
Illiterate	192	20
Elementary	344	35.8
High	426	44.2
Husbands' education		
Illiterate	231	24
Elementary	104	10.8
High	627	65.2
Wives' occupation		
Working	494	51.4
Housewife	468	48.6
Husbands' occupation		
Working	816	84.8
Not working	146	15.2
Religion		
Muslim	671	69.8
Christian	291	30.2
Family size		
2	69	7.2
3	391	40.6
4	177	18.4
5 or more	325	33.8

Table 2 shows that the mean age of menarche of the participating wives was 8.7 ± 5.8 years. The prevalence of circumcision was 65.8% among them. The mean age of marriage was 18.7 ± 3.5 years. About half of the participants (50.8%) married at age 18 years or less. Positive consanguinity was reported by 53.4% of the participants. Concerning the first sexual relationship, a history of

bleeding was reported by 26.4% of the participants. About half of the participants (54.6%) exposed to sexual violence during their first sexual intercourse. On the other hand, husband's emotional support was reported in 36% of wives, while husbands' sexual satisfaction was reported in 60% of participants.

Table 2: Marriage circumstances and aspect of sexual relationship of the participating women.

Variables	n=962	Percent (%)
Age of menarche (Mean±SD)	13.7±5.8	
Wives' circumcision		
Yes	633	65.8
No	329	34.2
Age at circumcision (Mean±SD)	11.47 ± 1.54	
Marital age (Mean±SD)	18.7±3.5	
Marital age		
≤18 years	489	50.8
>18 years	473	49.2
Consanguinity		
No	514	53.4
1st degree	403	41.9
2nd degree	45	4.7
Type of marriage		
Love	475	49.4
Traditional	487	50.6
Living with relatives	501	52.1
Exposure to a painful experience during the first sexual intercourse		
Bleeding	25	26.4
No satisfaction	68	7.1
Lack of desire	300	31.2
Pain	177	18.4
Others	163	17
Exposure to sexual violence	525	54.6
Husband's emotional support	346	36
Exposure to emotional violence	441	45.8
Exposure to physical violence	487	50.6

Table 3 shows that 73.7% of the participants had a history of two or more deliveries. Vaginal delivery and cesarean section were reported in 64.2% and 27.5% of them respectively. Concerning their use of family planning methods, 25.4% had no history of contraception. Meanwhile, 18.3% of them depend on the safe period as a contraceptive method. Intrauterine device (IUD) and hormonal methods were used by 31.9% and 24.4% of the participants.

Our results revealed that the age of marriage was significantly different according to the religion and the family size ($p=0.003$ and 0.005 , respectively). Also there is a significant difference between the age of marriage and the educational level of both husbands and wives ($p < 0.001$). On the other side, there is no significant difference between the age of marriage and their family income, husbands' occupation or wives' circumcision

(Table 4). Moreover, women married before 18 years had negative consanguinity than those married after 18 years (68.3% versus 38.1%, respectively, $p < 0.001$). No difference between both groups regarding the age of menarche ($p = 0.439$) and living with relatives ($p = 0.863$).

Table 5 shows that women married before 18 years had significantly lower percentage of husband's sexual satisfaction than those married after 18 years (55.6% versus 64.5%, respectively, $p = 0.005$). Otherwise, no difference between both groups regarding the percentage of exposure to emotional, physical or sexual violence.

Table 6 shows a significant difference between both groups regarding the type and number of deliveries. Use of contraception methods were significantly higher in those married at or less than 18 years old. Previous abortion was significantly higher in those married after 18 years old.

Regarding obstetric complications during pregnancy, we found the rate of accidental hemorrhage (3% versus 1.4%), placenta previa (2.2 versus 0.6%), eclampsia (1.8% versus 0.4%), and intrauterine growth restriction (3% versus 0.6%) were significantly higher in those married before 18 years ($p = 0.028, 0.036, 0.038$ and 0.005 respectively). Otherwise, no difference was found between both groups regarding other obstetric complications.

Table 3: Obstetric and gynecological history of the participating women.

Obstetric and gynaecological history	n=	Percent (%)
Number of deliveries		
0	79	8.2
1	174	18.1
2 or more	709	73.7
Type of delivery		
Vaginal delivery without episiotomy	485	50.4
Vaginal delivery with episiotomy	133	13.8
Caesarean section	265	27.5
No delivery	79	8.2
Use of contraception methods		
No	244	25.4
Safe period	176	18.3
Intrauterine device	307	31.9
Hormonal methods	235	24.4
Previous abortion		
None	530	55.1
Once	384	39.9
>1	48	5

Table 4: Socio-demographic characteristics of the participating women according to their age of marriage.

	Age of marriage		χ^2	P value		
	≤18 years (n=489)	>18 years (n=473)				
Religion						
Muslim	362	74	309	65.3	8.62	0.003*
Christian	127	26	164	34.7		
Family income						
Low	318	65	299	63.2	2.51	0.284
Moderate	156	31.9	150	31.7		
High	15	3.1	24	50.1		
Family size						
2	45	9.2	24	5.1	12.82	0.005*
3	190	38.9	201	42.5		
4	103	21.1	74	15.6		
5 or more	151	30.9	174	36.7		
Husbands' education						
Illiterate	162	33.1	69	14.6	108.3	<0.001*
Primary or preparatory	84	17.2	20	4.3		
Secondary or high	243	49.7	384	81.2		
Wives' education						
Illiterate	161	32.9	31	6.6	121.7	<0.001*
Primary or preparatory	175	35.8	169	35.7		
Secondary or high	153	31.3	273	57.8		
Husbands' occupation						
Working	404	82.6	412	87.1	3.75	0.053
Not working	85	17.4	61	12.9		
Wives' occupation						
Working	198	40.5	296	62.6	46.95	<0.001*
Not working	291	59.5	177	37.4		

Continued.

	Age of marriage		Age of marriage		χ^2	P value
	≤ 18 years (n=489)		>18 years (n=473)			
Wifes' circumcision						
Yes	318	65	315	66.6	0.262	0.609
No	171	35	158	33.4		

*P value is significant <0.05

Table 5: Aspect of sexual relationship of the participating women in relation to their age of marriage

Sexual relationship	Age of marriage		Age of marriage		χ^2	P value
	≤ 18 years (n=489)		>18 years (n=473)			
Exposure to emotional violence						
Yes	215	44	226	47.8	1.4	0.235
No	274	56	247	52.2		
Exposure to physical violence						
Yes	237	48.5	250	52.9	1.85	0.174
No	252	51.5	223	47.1		
Exposure to sexual violence						
Yes	257	52.6	268	56.7	1.63	0.201
No	232	47.4	205	43.3		
Husbands' emotional support						
Yes	164	33.5	182	38.5	2.54	0.11
No	325	66.5	291	61.5		
Husbands' sexual satisfaction						
Yes	272	55.6	305	64.5	7.86	0.005*
No	217	44.4	168	35.5		

*P value is significant <0.05

Table 6: Obstetric and gynecological history of the participating women in relation to their age of marriage.

Obstetric and gynecological history	Age of marriage		Age of marriage		χ^2	P value
	≤ 18 years (n=489)		>18 years (n=473)			
Number of deliveries						
0	79	16.2	0	0	122.9	$<0.001^*$
1	118	24.1	56	11.8		
2 or more	292	59.7	417	88.2		
Type of delivery						
Vaginal delivery without episiotomy	179	36.6	306	64.7	202.75	$<0.001^*$
Vaginal delivery with episiotomy	35	7.2	98	20.7		
Caesarean section	196	40.1	69	14.6		
No delivery	79	16.2	0	0		
Use of contraception methods						
No	159	32.5	85	18	308.62	$<0.001^*$
Safe period	0	0	176	37.2		
IUD	240	49.1	67	14.2		
Hormones	90	18.4	145	30.7		
Previous abortion						
Non	323	66.1	207	43.8	130.2	$<0.001^*$
Once	118	24.1	266	56.2		
>1	48	9.8	0	0		

*P value is significant <0.0

DISCUSSION

Teenage marriage is defined as a formal marriage before 18 years of age. Similarly, early childbearing is defined as a woman giving birth to a child before 18 years of age.¹²

This study uncovered a high prevalence of teenage marriage rate in Upper Egypt. Educational level of the girls themselves, of their parents as well as their husbands, rural residence and those living in family of ≥ 5 members are the main factors associated with this practice. Our findings are

higher than the prevalence in other developing countries such as India (45%).¹³ This means that teenage marriage in Egypt is unacceptably high. The present study shows that the mean age of marriage was 18.7 ± 3.5 years and 50.8% of the participating women became married at the age of 18 or less.

Among those surveyed between 1998 and 2005, the median age of women at first sex and first marriage was 18.5 years and 21.4 years for men. This is due to women seeking early motherhood while men usually postpone marriage until they gain employment in order to afford the expenses associated with getting married and starting a family. In Mali, the ratio of married girls to boys is 72 to 1; 21 to 1 in Kenya; 7.5:1 in Indonesia; 6:1 in Brazil; and even in the United States, the ratio is 8:1.2 The Universal Declaration of Human Rights states that individuals must enter the marriage freely with full consent and must be at a suitable adult age. In 1989 the Convention on the rights of the child defined children as persons under 18 year old.²

Many researchers have shown that age at marriage is affected by individuals and family background; these include races, geographic location and poverty.¹⁴ Education gives women the ability to make their own reproductive health decisions. Like many African countries, the current study proved that teenage marriage was strongly associated with female circumcision. The educational attainment of the parents and the women themselves are usually strongly related to early marriage. People whose parents have higher educational attainment and financial assets are less likely to marry young.¹⁵

The current study showed that there is a significant relationship between the age of marriage, religion and family size, also there is highly significant relationship between the age of marriage and husbands' education, wives' education and their occupations, while there is no relationship between the age of marriage and family incomes, husbands' occupation or circumcision. This is in line with the study conducted by Ali et al. who reported that family size in their study is a good predictor of the likelihood of child marriage.¹⁵ An increase in the family size will add to the economic burden of the family. Thus, young women who are less likely to receive economic support from their parents are highly prone to early marriage. Rural residence is another risk factor for teenage marriage in the present study and this is possibly so because the poverty and low economic ability in the rural society lead the parents of the girl to search for alternative situation rather than their home or even to minimize the family size and hence reduce their financial burden.

The different socio-demographic factors which affect teenage marriage include the difference in mean age between the respondents in this study. This should be considered while the policy makers formulate their strategies for the eradication of the practice, and it seems unlikely that the law is going to resolve the problem. In spite of many countries, share Egypt's cultural

background, determine certain age as a legal age for marriage but the practice is still of high prevalence. For example, although the legal age of marriage is 18 years, in Mali 65% of girls are married at a younger age; in Mozambique, it is 57%; and in India, it is 50%. In some parts of Ethiopia, although the legal age of marriage is 15 years, 50% of younger girls are married.¹⁶

Studies from India indicate that there is an increased risk of violence among young women who are married before 18 years than young women who are married later.¹⁷ Goli et al showed that a significantly higher percentage of women married before 18 years were in the 'thin' category in India (35%, $p < 0.001$) and in the selected states, Andhra Pradesh (31%, $p < 0.001$) and Bihar (43%, $p < 0.001$), compared to women married at higher ages.⁴

Intimate partner violence (IPV) is recognized not only as a pervasive human rights violation but also as an increasingly important public health problem with substantial consequences for women's physical, mental, sexual, and reproductive health.¹⁸ The effects of IPV include physical injuries such as bruises and broken bones and death. It is also linked to adverse reproductive health outcomes such as miscarriages, premature delivery, and pelvic inflammatory disease. IPV knows no bounds and cuts across national borders, race, class, ethnic and religious lines, and educational levels.¹⁹

The current study shows that bleeding during 1st intercourse was in 26.4% of cases, no satisfaction was in 7.1% of cases, lack of desire was in 31.2% of cases, pain was in 18.4% of cases, others was in 17% of cases. Exposure to sexual violence was in 54.6%, husband's emotional support was in 36% of cases. Husband's sexual satisfaction was in 60% of cases and wife's sexual satisfaction was in 37.6% of cases. Brewern et al reported that regardless of sexual identity, undergraduates who reported IPV were more likely to have lower grades (GPA) and increased academic difficulties.²⁰ Health mediates this relationship, such that IPV reduces health, which negatively affects the academic performance. Also, this study showed that there is a highly significant relationship between the age of marriage and exposure to painful experiences during the first sexual intercourse also there is significant relationship between the age of marriage and husbands' sexual satisfaction while there is no statistically significant relationship between the age of marriage and exposure to emotional violence, exposure to physical violence, exposure to sexual violence or husbands' emotional support. However, there is little prospective information available on whether and how traumatic experiences prior to the age of 18 influence pregnancy outcomes. An exception is limited literature that has focused on childhood sexual abuse as a risk factor for preterm birth and low birth weight. Several studies found no association between childhood sexual abuse and birth outcomes.²¹

Teenage marriage leads to earlier births at young age, this fact with low use of contraception in countries like Egypt put the women at greater risk of unwanted pregnancy, high parity and hence high incidence rate of obstetric complications.²² The current study showed that there is highly significant relationship between the age of marriage and type of delivery, number of deliveries, use of contraception methods and previous abortions. In agreement with Abbas et al who reported that teenage mothers had a higher proportion of normal delivery ($p=0.005$).⁷ The adult mothers reported higher rate of elective CS and operative vaginal delivery with a statistically significant difference ($p=0.0001$ and 0.002 ; respectively). However the teenage group reported a higher rate of emergent CS with statistically significant difference ($p=0.0001$). There was no difference in postpartum morbidities between the two groups in regard to the occurrence of postpartum hemorrhage, need for hysterectomy, blood transfusion and ICU admission.

Complications in late pregnancy such as IUGR and oligohydramnios were higher among the teenage mothers; however, postpartum complications were higher among the adult mothers. Normal vaginal delivery was higher among the teenage mothers while instrumental vaginal delivery and elective CS were higher among the adult mothers.⁷

Maternal mortality and morbidity among teenagers represent an extensive public health problem at the universal level.²³ The present study showed that there was significant difference between two groups as regards total early and late pregnancy complications, a significant difference was also found between the two groups as regards IUGR, eclampsia, placenta previa and accidental haemorrhage while there is no significant difference between the two groups as regards the remaining complications. Previous studies reported that the hypertensive disorders of pregnancy are higher among the teenage mothers.²⁴

CONCLUSION

The study revealed that teenage marriage is significantly related to the socio-demographic characteristics, such as family size and educational level of the studied population. Moreover, adverse sexual and psychological consequences, such as exposure to painful experiences during the first sexual intercourse are significantly associated with women who married at below eighteen years of age. Also, pregnancy complications were significantly related to teenage marriage. In Egypt, there is a critical need for health education to motivate family planning and vast efforts to reduce underage marriage, with special focus on rural and less educated communities.

Limitations

The cross-sectional study design can't imply causality, and subjects the study to the potential of recall bias.

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