

Maternal Complications of Teenage Pregnancy in Two Teaching Hospitals in Baghdad

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Abstract

Background: Adolescent pregnancy is considered as one of the most important social and public health problems all over the world. Early marriage is the contributing factors to high maternal morbidity and mortality.

Aim of the study:

To evaluate the complications of teenage pregnancies in comparison with adult pregnancy.

Methodology: A comparative cross sectional study was carried out during the period from February through June 2018. A convenient sample was collected from the consultation clinics of obstetrics and gynecology in AL-Yarmouk Teaching Hospital and AL-Kadhimiya Teaching Hospital in Baghdad city. The study group composed of 200 pregnant teenagers in the third trimester aged between 15-19 years and the comparable group composed of 200 pregnant women in the third trimester aged between 20-29 years. The data were collected by direct interview using a well-constructed questionnaire, the questionnaire focused on the sociodemographic characteristics, history of present pregnancy, history of using family planning methods, and complications during current pregnancy.

Result: The educational level of teenage pregnant women was primary level 62.5%. The study found that 48.5% of teenage group had adequate antenatal care visit as compared to high percentage of adequate antenatal care visit (81.0%) of adult group. Higher rate of pregnancy complications among teenage pregnant women in comparison with adult pregnant women including anemia, urinary tract infection, gestational hypertension, and gestational diabetes.

Conclusion: The study concludes that there was a higher rate of maternal complications among the teenage pregnant women, which represent an important health problem with social and medical impact.

Key words: Teenage Pregnancy, Maternal Complications

Introduction

Adolescent pregnancy is considered as a public health problem with social and health impact on quality of the life for both individual and family. Some health risks associated with pregnancy and childbearing are more pronounced among adolescent than among old women (1).

The pregnancy during teenage period is a huge problem in the developed as well as developing countries (2). Early pregnancy might combine with malnutrition and poor healthcare to cause medical problem (3). Teenage pregnancies are considered as a high-risk group in reproductive period because of the effect on both the reproduction and the developmental growth (4).

The reasons behind the elevated adolescent's pregnancy rate in the developing societies are multifactorial including behavioral, traditional, social, educational or religious backgrounds, mostly the poverty and the low socioeconomic status (5).

In 2008, WHO found that the teenage mothers are most likely to live in poverty, bad healthcare and low education than other women, because the teenage mothers are less likely to finish school, the teenage mothers have a poor nutritional rate and inadequate prenatal multivitamins intake to maintain good nutritional status during gestation compared to the older mothers (6).

In developing countries, adolescent girls have poor knowledge regarding reproductive sexual health, deficit of using tools to prevent pregnancies (7). About 16 million women aged 15–19 years old give birth each year, about 11% of all births worldwide. Ninety-five percent of these births occur in low- and middle-income countries (8). In Egypt and other northern African countries and in Arab countries teenage pregnancy is common (65 per 1000) (9).

Maternal mortality rate twice as likely more in pregnant adolescent aged 15-19 years than women aged 20-24 years especially in developing countries, mostly due to hypertensive disorder of the pregnancy, puerperal sepsis, and septic abortion (10).

In Iraq, age at marriage play determinant factor in reproductive health of women, where early pregnancy and unplanned childbirth may have physical, psychological and social consequences (11). Teenage pregnancy in Iraq was increasing from 38 per 1000 women ages 15-19 years in 2011 to 80 per 1000 women aged 15-19 in 2014 (12).

This study was conducted to evaluate the maternal complications of teenage pregnancy in comparison to adult group in two teaching hospitals in Baghdad /AL-Karkh.

Methodology

A comparative cross-sectional study was conducted in the consultation clinics of

obstetrics and gynecology in AL-Kadhimiya Teaching Hospital and AL-Yarmouk Teaching Hospital during the period from 1st of February till the end of June 2018.

A Convenient sampling technique was used for selection of two groups of pregnant women in the third trimester (37weeks of gestation and more) attending the consultation clinics with single viable pregnancy. The age of pregnant women in first group was 15-19 years and in the comparable group was 20-29 years. Exclusion criteria: were multiple pregnancies and chronic medical disease.

The data were collected by direct interview with pregnant women in both groups after the purpose and aim of the study were explained to all pregnant women and their verbal consent were obtained. Data collection was done through using a well-constructed questionnaire which covers the sociodemographic characteristics, history of present pregnancy, the using of family planning methods, and complications during present pregnancy. Antenatal record were reviewed which contain all investigations which was done for each pregnant women (Hb, urine analysis, fasting or random blood sugar).

Adequate antenatal care (ANC) is defined as receiving a minimum of four ANC visits, the first visit being in the first trimester. Inadequate care is defined as late initiation of ANC visits (either during second or third trimester), less than four visits. Confidentiality of data throughout the study was guaranteed and the pregnant women were assured that all data were used for research purpose only.

Analysis of data was carried out using the available statistical package of SPSS-24 (Statistical Packages for Social Sciences-version 24). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values).

The significance of difference of different percentages (qualitative data) was tested using Pearson Chi-square test (χ^2 -test) with application of Yate's correction or Fisher Exact test whenever applicable. Statistical

significance was considered whenever the P value was equal or less than 0.05.

Logistic regression analysis technique was applied to eliminate the effect of confounders with odds ratio (OR) and 95% Confidence interval of OR estimation.

Results

The Mean age of teenage group was 17.3 ± 1.3 , 50% of them at the age 18-19 years and 37.0% of them married at the age 14-15 years and 42.0% get first pregnancy at age 16-17 years. While mean age of comparable group was 25.1 ± 2.7 , 26.5% of them at the age 26-27 years and only 27.0% were married at age 20-21 years and 26.5% of them get first pregnancy at age 22-23 years (Table 1-A).

Table: 1-B demonstrate that 62.5% of teenage women were at primary level of education, while in the comparable group, 48.0% at secondary level of education, this difference in educational level was statistically significant. The percentage of rural residency among teenage group (48.5%) was significantly higher than comparable group (23.0%) (P-value=0.0001).

The result in Table 2 illustrates higher percentage (62.5%) of teenage pregnant women were primigravida in comparison to adult group (11.0%) with p-value (0.0001). Also 77.5% of teenage women were nulliparous in comparison to the adult group only 17.0% were nulliparous with p-value 0.0001.

There was a significant association regarding the time of first visit for antenatal care (ANC), 52.5% in the first trimester in teenage group versus 38.0% in adult group. In addition, there was statistically significant association regarding number of ANC visits between two groups, there were adequate ANC visits with higher percentage in adult group 81.0% vs. 48.5% in the teenage group (Table2).

Logistic regression analysis shows that there was only statistically significant association with anemia (table 5).

Table (1-A):- The distribution of the study sample according to socio-demographic characteristics.

Socio-demographic Characteristics		Teenage (n=200) (age 15-19)		Adult (n=200) (age 20-29)	
		No	%	No	%
Age (years)	14---15	24	12.0	-	-
	16---17	76	38.0	-	-
	18---19	100	50.0	-	-
	20---21	-	-	25	12.5
	22---23	-	-	31	15.5
	24---25	-	-	46	23.0
	26---27	-	-	53	26.5
	28---29	-	-	45	22.5
	Mean±SD (Range)	17.3±1.3 (15-19)		25.1±2.7 (20-29)	
Age at marriage (years)	14---15	74	37.0	-	-
	16---17	71	35.5	9	4.5
	18---19	55	27.5	41	20.5
	20---21	-	-	54	27.0
	22---23	-	-	49	24.5
	24---25	-	-	31	15.5
	26---27	-	-	13	6.5
	28---29	-	-	3	1.5
	Mean±SD (Range)	16.4±1.5 (14-19)		21.5±2.7 (17-29)	
Age at first pregnancy (years)	14---15	51	25.5	-	-
	16---17	84	42.0	9	4.5
	18---19	65	32.5	40	20.0
	20---21	-	-	50	25.0
	22---23	-	-	53	26.5
	24---25	-	-	31	15.5
	26---27	-	-	11	5.5
	28---29	-	-	6	3.0
	Mean±SD (Range)	16.7±1.4 (14-19)		21.6±2.7 (17-29)	

Table (1- B) : - The distribution of the study sample according to the sociodemographic characteristics.

Socio-demographic Characteristics		Teenage(n=200) (age15-19)		Adult (n=200) (age 20-29)		P value
		No	%	No	%	
Education Level	Illiterate	14	7.0	4	2.0	0.0001*
	Read & write	33	16.5	12	6.0	
	Primary	125	62.5	67	33.5	
	Secondary	28	14	96	48	
	College	-	-	21	10.5	
Residence	Urban	103	51.5	154	77.0	0.0001*
	Rural	97	48.5	46	23.0	

*Significant association using Pearson Chi-square test at 0.05 level.

Table (2): - The distribution of study sample according to the history of present pregnancy

		Teenage(n=200)(age 15-19)		Adult (n=200) (age 20-29)		P value
		No	%	No	%	
Gravida	1	125	62.5	22	11.0	0.0001*
	2	58	29.0	72	36.0	
	3	17	8.5	65	32.5	
	4	-	-	24	12.0	
	5	-	-	17	8.5	
Parity	0	155	77.5	34	17.0	0.0001*
	1	36	18.0	78	39.0	
	2	9	4.5	62	31.0	
	3	-	-	19	9.5	
	4	-	-	7	3.5	
Time of first ANC visit	First Trim.	76	38.0	105	52.5	0.010*
	Second Trim.	90	45.0	64	32.0	
	Third Trim.	34	17.0	31	15.5	
Number of visits	1	-	-	3	1.5	0.0001*
	2	12	6.0	14	7.0	
	3	91	45.5	21	10.5	
	4 & more	97	48.5	162	81.0	
	Mean±SD (Range)	4.6±2.4 (2-10)		6.7±2.9 (1-12)		

*Significant association using Pearson Chi-square test at 0.05 level

Table (3): - The distribution of study sample according to family planning use

		Age groups				P-value
		Teenage(n=200) (age15-19)		Adult(n=200) (age 20-29)		
		No.	%	No	%	
Using family planning method	Yes	16	8.0%	142	71.0%	0.001*
	No	184	92.0%	58	29.0%	
Type of family planning method	Barrier method	0	0.0%	8	5.6%	
	Coitus interruptus	2	12.5%	7	4.9%	
	Emergency	0	0.0%	3	2.1%	
	Injection	4	25.0%	41	28.9%	
	IUD	2	12.5%	21	14.8%	
	Natural family	1	6.3%	3	2.1%	
	Oral contraceptive	7	43.8%	59	41.5%	

*Significant association using Pearson Chi-square test at 0.05 level

Table (4): - The distribution of study sample according to maternal complications of present pregnancy.

Current pregnancy		Teenage(n=200) (age 15-19)		Adult(n=200) (age 20-29)		P value
		No	%	No	%	
Anemia	Yes	58	29.0	26	13.0	0.0001*
	No	142	71.0	174	87.0	
Gestational hypertension	Yes	22	11.0	11	5.5	0.046*
	No	178	89.0	189	94.5	
Gestational diabetes	Yes	29	14.5	10	5.0	0.001*
	No	171	85.5	190	95.0	
Antepartum hemorrhage	Yes	18	9.0	12	6.0	0.255
	No	182	91.0	188	94.0	
Urinary tract infection	Yes	36	18.0	22	11.0	0.047*
	No	164	82.0	178	89.0	
Intrauterine death	Yes	11	5.5	9	4.5	0.646
	No	189	94.5	191	95.5	
Polyhydramnios	Yes	9	4.5	12	6.0	0.501
	No	191	95.5	188	94.0	
Oligohydramnios	Yes	17	8.5	20	10.0	0.605
	No	183	91.5	180	90.0	

*Significant association using Pearson Chi-square test at 0.05 level.

Table 5 showing Logistic regression analysis

Step 1	B	S.E.	Wald	Df	Sig.	OR	95% C.I. OR	
							Lower	Upper
Current Anemia	1.399	0.440	10.111	1	0.001	4.052	1.710	9.598
Current gestational hypertension	0.946	0.629	2.263	1	0.133	2.576	0.751	8.836
Current Gestational diabetes	0.669	0.697	0.921	1	0.337	1.952	0.498	7.645
Current Antepartum hemorrhage	-0.591	1.046	0.319	1	0.572	0.554	0.071	4.302
Current Urinary tract infection	0.140	0.610	0.052	1	0.819	1.150	0.348	3.800
Current Intrauterine death	1.231	0.715	2.964	1	0.085	3.426	0.843	13.921
Current oligohydramnios	0.783	0.709	1.219	1	0.270	2.189	0.545	8.793
Current Polyhydramnios	-1.431	1.108	1.666	1	0.197	0.239	0.027	2.099
Constant	-23.423	4.955	22.342	1	0.0001	0.000		

Discussions

In the present study, the mean age of teenage women was 17.3±1.3 years and mean age of marriage was 16.4±1.5, this finding is in agreement with study done in Baghdad in 2012 (13), and with other study done in Jordan (14). This result of early age of marriage is culturally acceptable.

This study revealed that more than half of the teenage women had primary educational level which agree with study in Basra, 2011 (15), and with other study done in Baghdad in 2015 (16). Moreover, teenage pregnant mother had significantly lower level of education than adult mothers, which is in agreement with study done in India (2003) (17). Early marriage may lead to leave school early and a delay in

marriage will lead to consequent delay in pregnancy so would have opportunities for higher education.

Percentage of rural mother was higher among teenage group (48.5%) than adult group (23.0%), which reflects the social and cultural factors in our country towards early marriage among rural population which may have adverse effects on maternal outcome. This result agrees with study in India in (2011) that found teenage birth rate is greater in rural regions than major urban centers (18).

About two-third of teenage pregnant women were primigravida, and it was surprising to find that 29.0% of adolescent women were carry out their second pregnancy, and this means that the adolescent woman are

exposed to repeated pregnancy at short interval. This finding agrees with a local study done in Baghdad city in 2012 (19).

Also about three-quarters (77.5%) of teenage women were nullipara as compared to 17.0% of adult group, this result was similar to other study in Pakistan in 2011 (20). About half (48.5%) of teenage group had adequate ANC visits as compared to higher percentage of adequate ANC visits (81.0%) of adult group. There were many studies showed that teenagers had poor ANC (21, 22, 23). This means that teenage pregnant women were less careful about their pregnancy because of lack of awareness concerning the importance of adequate ANC visit (24).

Current study reported that the using of contraception among teenage group was significantly lower than adult group which agrees with other study in India (24). This lower percentage of using family planning method in the teenage women is due to family pressure of childbearing or poor knowledge about the family planning methods.

In the present study it was found that the teenage pregnant women had a higher percentage of anemia (29.0%) in comparison with adult pregnant women (13.0%). This result agrees with study done in Babylon in 2015(25), but it disagree with another study done in Jordan in 2006 which found anemia higher in adult group (26). This complication may be due to poor nutritional behavior.

The second frequent complication after anemia was UTI, this goes with result of study done in Samara in 2016 (27), but it disagree with other studies done in Saudi Arabia (2009)(28) , and Latin America (2005) (29) . The higher rate of UTI infection may be due to physiological immunosuppression of pregnancy, and poor nutritional status (30).

About 11.0% of teenage group had gestational hypertension in comparison to 5.5% of adult group, this agrees with study in Egypt in 2016 that showed gestational hypertension is the major maternal complications among teenage pregnancy (31).

However, the result of the present study did not show significant association regarding antipartum hemorrhage, polyhydramnios, oligohydramnios and intrauterine death. These results agree with studies done in Iran (2004) (32) and Pakistan in 2011(33).

In conclusion, teenage pregnant women had inadequate ANC during pregnancy, they were less likely to use family planning methods and they have a high rate of pregnancy complications. So Family and community education is very important in delaying marriage and subsequently delaying

childbearing, thus protecting the young girl from being exposed to the various complications of teenage pregnancy.

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