

Obstetric Outcomes of Teenage Primigravida in Su-ngai Kolok Hospital, Narathiwat, Thailand

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Background: Teenage primigravida cause high morbidity and mortality to mother and fetus.

Objective: To compare obstetric outcomes of teenage pregnancy with reproductive-age pregnancy (20-34 years), with a focus on the risk of low birth weight and anemia.

Material and Method: A historical cohort study of 2,922 primigravida women who gave birth between January 2005 and December 2009 at Sungaikolok Hospital Narathiwat was done. The patients were divided into two groups to compare the obstetric outcomes. The study group was composed of 796 cases of teenage pregnancies (< 20 years) and the control group was composed of 2,126 cases of reproductive-age pregnancies (20-34 years).

Results: Twenty-seven percent of these patients were teenage pregnancies. The teenage group received less adequate antenatal care (<4 visits), and less education than the reproductive group ($p < 0.05$). The study group had a significantly higher incidence of anemia (23.6%) low birth weight (16.3%), and pre-term (10.3%) than the reproductive control group, ($p < 0.05$).

After controlling for other factors by logistic regressing analysis, poor antenatal care (<4 visits) was significantly associated with low birth weight and anemia in teenage pregnancy with an odds ratio of 1.9 and 1.5 respectively. Private antenatal care was significantly associated with lower anemia (odds ratio 0.7) and low birth weight (odds ratio 0.6).

Conclusion: Teenage pregnant women had less education and antenatal care than the reproductive-age group. Teenage pregnancy had an increased risk of adverse obstetric outcomes, especially, low birth weight and anemia.

Keywords: Teenage pregnancy, Teenage mother, Obstetric outcome

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Teenage pregnancy was defined as pregnancy occurring during the teen period through 19 years. Nowadays, the present study found that pregnancies among teenagers between 15 and 19 years tend to increase. This is due to early sexual activity in girls without the use of contraception and lack of sex education from the hospital^(1,2).

The World Health Organization reports that the rate of pregnancies among teenagers between 15 and 19 years is significantly different around the world. The rates of teenage pregnancy ranged from 4 per 1,000 in Japan to 212 per 1,000 in Angola. For Thailand, the rate of pregnancies among teenagers (15-19 years) was 70 per 1,000⁽³⁾.

Teenage mothers lack knowledge and understanding of health and family planning. Furthermore, teenage girls are physically and

psychologically immature for reproduction. Therefore, several medical complications such as pre-term birth, low birth weight, small for gestational age, and anemia are found in teenage pregnancies^(4,5).

Some studies did not find the difference in medical complications and the pregnancy results especially in teenage mothers who received antenatal care at an early stage⁽⁶⁾. Low birth weight and medical complications such as anemia in each demographic were different depending on population, knowledge, environment, economy, and care during pregnancy. Su-ngai Kolok Hospital, Narathiwat still lacks basic data on teenage pregnancy and medical complications in teenage mothers especially low birth weight and anemia. Hence, the present study on obstetric outcomes of teenage primigravida could serve as guidelines for prevention and enhancing the care system for teenage mothers in the future.

The objective of the present study was to compare the rate of anemia and low birth weight between teenage pregnancies (< 20 years) and a group of reproductive-age pregnancies (20-34 years).

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The present study design is an historical cohort study.

Material and Method

The data on complications were collected from the pregnancy record book. The data were comprised of 20-34 year olds in both teenage pregnancy and reproductive-age pregnancy that gave birth at Su-ngai Kolok Hospital, Narathiwat between January 1, 2005 and December 31, 2009. The samples have the following criteria inclusion:

1. Primigravida.
2. Gestational age was at least 28 weeks and babies weighing more than 1,000 gram.
3. The women's age less than 35 years.

Definitions

1. Teenage mother was defined as pregnancy in a woman younger than 20 years.
2. Anemia was defined as hemoglobin concentration less than 11 gram per deciliter or hematocrit less than 33%.
3. Pre-term was defined as an infant born before 37 weeks of gestation.
4. Low birth-weight was defined as babies weighing less than 2,500 grams.
5. Pre-eclampsia was defined as hypertension caused from pregnancy more than 140/90 mm Hg and proteinuria.
6. Antenatal care four times were defined as receiving antenatal care at least one time during these periods, before 24 weeks of gestation, 24-28 weeks of gestation, 28-32 weeks of gestation, and more than 32 weeks of gestation.
7. Birth asphyxia was defined as newborns that have Apgar score of less than 7.

Statistical analysis

Data were analyzed by statistical software program SPSS. The data of the study group and control group were used as frequency and percentage, mean, and standard deviation. Chi-square (χ^2) test or Fisher's exact test was used to compare the categorical data. Logistic regression analysis was also used to analyze odds ratio and 95% confidence interval that influenced low birth weight and anemia of both groups. A p-value of less than 0.05 was considered statistically significant.

Results

Two thousand nine hundred twenty two primigravida women less than 35 years who gave birth

at Su-ngai Kolok Hospital, Narathiwat between January 1, 2005 and December 31, 2009 were included in this study. The average age was 22.78 ± 4.38 years, of which 796 (27.2%) were teenage pregnancies. The average age for teenage pregnancies was 17.75 ± 1.27 year. The comparison group was 2,162 cases of reproductive-age pregnancies (20-34 years), which was 72.8% of the total number of women. The average age was 24.67 ± 3.57 years. The minimum age was 13 years, and the maximum age was 34 years. The data were shown in Table 1.

The results of the general data such as religion, education, and occupation showed that the total number of the study group was 796 cases, of which 22.4% were Buddhists, and 77.6% were Muslims. The total number of the control group was 2,162 cases, of which 25.4% were Buddhists, and 74.6% were Muslims. The results showed that there was no statistical difference (Table 2).

Education level of teenage mothers in the study group showed that 6.3% did not attend school, 38.2% had primary education, 51.9% had secondary education, 3.0% had a diploma, and 0.6% had higher education. However, the control group of reproductive-age mothers (20-34) showed that 5.1% did not attend school, 29.9% had primary education, 33.2% had secondary education, 10.5% had a diploma, and 21.3% had higher education. The data illustrated that the study group (teenage mothers) had an education leading to a diploma degree and higher education less than the control group with statistical significant difference ($p < 0.001$) (Table 2).

The data showed that most of the mothers in the study group and the control group were housewives 86.9% and 66.3% respectively. Moreover, the data illustrated that the control group (20-34 years) were government employees, merchants, and laborers more than the teenage mothers (Table 2) with a statistical significant difference ($p < 0.001$).

In terms of gestational age, pre-term birth occurred more commonly in teenage mothers (15.3%)

Table 1. Number of teenage mothers (< 20 years) and reproductive age mothers (20-34 years)

Age (years)	Case	Percentage	Age (mean \pm SD)
< 20	796	27.2	17.75 ± 1.27
20-34	2,126	72.8	24.67 ± 3.57
Total	2,922	100	22.78 ± 4.38

Table 2. Demographic characteristics

	Maternal age < 20 years (n = 796), Case (%)	Maternal age 20-34 year (n = 2,126), Case (%)	p-value
Religion			0.085
Buddhism	178 (22.4)	541 (25.4)	
Islam	618 (77.6)	1,585 (74.6)	
Education			0.000***
Not attending school	50 (6.3)	109 (5.1)	
Primary education	304 (38.2)	635 (29.9)	
Secondary education	413 (51.9)	706 (33.2)	
Diploma	24 (3.0)	223 (10.5)	
Bachelor Degree	5 (0.6)	449 (21.1)	
Master Degree and PhD	0 (0)	4 (0.2)	
Occupation			0.000***
Housewife	692 (86.9)	1,410 (66.3)	
Labor	55 (6.9)	369 (17.4)	
Agriculture	6 (0.8)	15 (0.7)	
Governmentemployee	1 (0.1)	180 (8.5)	
Merchant	28 (3.5)	134 (6.3)	
Others	14 (1.8)	18 (0.8)	

*** p < 0.001

Table 3. Antenatal care, gestational age, and childbirth method

	Maternal age < 20 years (n = 796), Case (%)	Maternal age 20-34 year (n = 2,126), Case (%)	p-value
Antenatal care			0.021*
Not receiving antenatal care	24 (3.0)	37 (1.7)	
Adequate antenatal care (4 times)	524 (65.8)	1,720 (80.9)	
Poor antenatal care (less than 4 times)	248 (31.2)	369 (17.4)	
Private antenatal care	92 (11.6)	542 (25.5)	0.000***
Gestational age			0.000***
Gestation less than 37 weeks	122 (15.3)	172 (8.1)	
Gestation 37-42 weeks	652 (81.9)	1,909 (89.8)	
Gestation more than 42 weeks	22 (2.8)	45 (2.1)	
Mode of delivery			0.000***
Normal delivery method	591 (74.2)	1,225 (57.6)	
Caesarean delivery method	163 (20.5)	742 (34.9)	
Instrumental vaginal delivery	42 (5.3)	159 (7.5)	

* p < 0.05, *** p < 0.001

than the control group (8.1%), the difference was statistically significant (Table 3).

The data showed that 65.8% of the study group received antenatal care as the standard (4 times), 31.2% of the study group received antenatal care less than four times, and 3.0% of the study group did not have antenatal care. For the control group, the data showed that 80.9% received antenatal care as the

standard (4 times), 17.4% received antenatal care less than four times, and 1.7% did not have antenatal care.

The data illustrated that the study group received antenatal care as the standard (4 times) less than the control group, and the difference was statistically significant at p < 0.001 (Table 3). Moreover, the control group had the higher rate of private antenatal care than the study group. The rate of private antenatal care in

teenage mothers was 11.6%, while the rate of private antenatal care in reproductive-age mothers were 25.5%, the difference between both groups was statistically significant at $p < 0.001$ (Table 3).

Regarding childbirth methods, 74.2% of the study group used normal delivery method, 20.5% caesarean delivery and 5.3% instrumental vaginal delivery. For the control group, 57.6% used normal delivery method, 34.9% caesarean and 7.5% instrumental vaginal delivery. Incidences of caesarean and instrumental vaginal were found to be less in the study group than the control group with a statistical significance of $p < 0.001$ (Table 3).

The most common complications were anemia and pre-term birth. The study group was found to have anemia 23.6% and pre-term birth 10.3%. For the control group, it was anemia 17.9% and cephalo-pelvic disproportionately at 12.4%, statistically significant difference at $p < 0.001$ (Table 4).

The incidence of low birth weight (less than 2,500 grams) was significantly higher in teenage mothers (16.3%) than the control group (11.2%) (Table 5).

Results of Apgar score at 1 minute and at 5 minutes in all groups (0-3, 4-7 and 8-10) showed that there was no statistically significant difference between the study group and the control group (Table 5).

The present study found that teenage pregnancies had higher incidences of anemia and low birth weight. Hence, the present study continued to examine the factors that influenced anemia and low birth weight, less than 2,500 grams. The factors that were taken into consideration were poor antenatal care (< 4 visits), gestational age less than 37 weeks, private antenatal care, membrane leakage, religion, and education (Table 6, 7). After controlling for other factors by logistic regressing analysis, the result showed that poor antenatal care (< 4 visits) was significantly associated with low birth weight and anemia rate. Poor antenatal care (< 4 visits) increased the possibility of low birth weight (less than 2,500 grams) with an odd ratio of 1.9 times ($p < 0.001$). In addition, the duration of gestation of less than 37 weeks increased the possibility of low birth weight (less than 2,500 grams) with an odd ratio of 8.7 times ($p < 0.001$). However, private care decreased the possibility of low birth weight (less than 2,500 grams) 0.6 times ($p = 0.007$).

In terms of anemia, for the teenage mothers group it was found that poor antenatal care (< 4 visits) increased the possibility of anemia 1.5 times ($p < 0.001$). Private antenatal care decreased the possibility of anemia 0.7 times ($p < 0.001$). In addition, the women with gestational age of less than 37 weeks had less

Table 4. Obstetric outcomes

	Maternal age < 20 years (n = 796), Case (%)	Maternal age 20-34 year (n = 2,126), Case (%)	p-value
Antepartum			
Anemia	188 (23.6)	381 (17.9)	0.001***
Preterm	82 (10.3)	118 (5.6)	0.000***
Postterm	46 (5.8)	98 (4.6)	0.193
PIH	18 (2.3)	66 (3.1)	0.204
VDRL HIV HbsAg Positive	10 (1.3)	35 (1.6)	0.446
Other (HT, DM, DFIU, TWIN)	8 (1.0)	33 (1.6)	0.262
Intrapartum			
CPD	64 (8.0)	263 (12.4)	0.001***
Fetal distress	29 (3.6)	108 (5.1)	0.101
Breech	24 (3.0)	71 (3.3)	0.659
Prolong labor	23 (2.9)	127 (6.0)	0.000***
PROM	14 (1.8)	72 (3.4)	0.020*
Thick Meconium	8 (1.0)	29 (1.4)	0.439
PPH	4 (0.5)	12 (0.6)	0.839

* $p < 0.05$, *** $p < 0.001$

PIH = pregnancy induced hypertension; HT = hypertension; DM = diabetes mellitus; DFIU = death fetus in utero; CPD = cephalo-pelvic disproportion; PROM = premature rupture of membrane; VDRL = venereal disease research laboratory; HIV = human immunodeficiency virus; HbsAg = hepatitis surface antigen

Table 5. Birth weight and Apgar score

	Maternal age < 20 years (n = 796), Case (%)	Maternal age 20-34 year (n = 2,126), Case (%)	p-value
Birth weight (gram)			0.001***
< 2,500	130 (16.3)	238 (11.2)	
2,500-3,999	657 (82.5)	1,855 (87.3)	
> 4,000	9 (1.1)	33 (1.6)	
Apgar 1 min			0.650
0-3	13 (1.6)	36 (1.7)	
4-7	11 (1.4)	40 (1.9)	
8-10	772 (97.0)	2,049 (96.4)	
Apgar 5 min			0.238
0-3	10 (1.3)	14 (0.7)	
4-7	9 (1.1)	30 (1.4)	
8-10	777 (97.6)	2,082 (97.9)	

*** p < 0.001

Table 6. Factors that influences birth weight (less than 2,500 gram)

Factors	Odds ratio	95% CI	p-value
Poor antenatal care (less than 4 times)	1.912	1.476-2.477	0.000***
Gestational age less than 37 weeks	8.660	6.524-11.495	0.000***
Private antenatal care	0.630	0.450-0.883	0.007**
PROM	1.628	0.906-2.926	0.103
Anemia	0.841	0.616-1.148	0.274

* p < 0.05, ** p < 0.01, *** p < 0.001

PROM = premature rupture of membrane

Table 7. Factors that influence anemia

Factors	Odds ratio	95% CI	p-value
Antenatal care less than 4 times	1.528	1.232-1.894	0.000***
Gestational age less than 37 weeks	0.694	0.493-0.966	0.03*
Gestational age more than 42 weeks	0.897	0.484-1.663	0.729
Private antenatal care	0.686	0.533-0.883	0.003**
Education	1.364	0.933-1.963	0.110
Religion	1.128	0.896-1.042	0.305

* p < 0.05, ** p < 0.01, *** p < 0.001

possibility of anemia (0.7 times) than the women with duration of gestation 37- 42 weeks (p = 0.03).

Discussion

From the present study, the incidence of teenage pregnancy was found to be 272 per 1,000. This

is higher than that observed in the study by the Thai Ministry of Health, where the incidence rate of Thai teenage pregnancy in the year 2003 was found to be 107 per 1000⁽⁸⁾, Furthermore, Perayut Sanugool, Peangjitt tharnaprisan (2007)⁽⁹⁾ found it to be 172 per 1000 while Suwannachat, Ualalitchowong reported it

at 159 per 1000⁽¹⁰⁾. This is due to early sexual activity in girls without the use of contraception and lack of sex education.

The present study found that teenage mothers had significantly lower levels of education than adult mothers, similar to the findings of Taffa et al⁽¹¹⁾ and Supadit et al⁽¹²⁾. Teenage mothers were also found to have a higher level of inadequate antenatal care, similar to the findings of Simoes et al⁽¹³⁾. The former observation may be due to the lower levels of education among teenage mothers and because teenage pregnancies tend to be “unwanted” pregnancies. The study by Supadit et al also showed that low levels of education and inadequate antenatal care increased the risk of low birth weight infants and pre-term labor⁽⁹⁾.

The present study found that teenage mothers had significantly received less pregnant care services as criterion, more than 4 times. The lower antenatal care rates in teenage mothers were due to immaturity for reproduction, education, income, and maturity⁽¹¹⁾; and, some did not receive antenatal care. In addition, the incidence of anemia, pre-term birth, pre-clampsia, and low birth weight were higher in teenage mothers than in reproductive-age mothers⁽¹⁰⁻¹²⁾.

The present study found that teenage mothers had a higher incidence of anemia. The incidence rate of anemia among teenage pregnancies was 23.6%, similar to that found by Suebnukarn et al⁽¹⁷⁾ Konje et al⁽¹⁸⁾ and Berenson et al⁽¹⁹⁾. The increased risk of this complication was most likely to have resulted from poor nutritional habits and low calorie intake by teenage mothers⁽¹⁹⁾. The present study found that the anemia rate increased in teenage mothers 2.53 times (95% CI 2.19-2.9; $p < \text{value} < 0.001$). This supported Conde-Agudelo, A et al⁽²⁰⁾ research, which found anemia in teenage mothers. The study showed that the cause for anemia in teenage mothers was malnutrition especially, the lack of iron and folic acid. In addition, thalassemia played a significant role in causing anemia in teenage mothers. Teenagers grow rapidly and need iron to form hemoglobin. Their needs are greater than adults. Moreover, teenagers often had heavy and irregular periods, which easily caused anemia. Hence, teenage mothers need more iron for the baby and themselves as well. Recent data found that teenage pregnancies without any complications did not have a higher rate of anemia than reproductive-age pregnancies⁽²¹⁾.

Pre-term labor is a common complication in teenage pregnancy. The incidence of pre-term labor among teenage pregnancies was 10.3%, similar to that

observed by Suebnukarn et al⁽¹⁷⁾, Hedinger et al⁽²²⁾, and Khunawitikul et al⁽²³⁾. The increased risk of pre-term labor may be because of poor nutrition, inadequate antenatal care, and lower levels of education. The lower ages had the higher pre-term and the risk factors that caused this condition were Gynecologic Age (GA) less than 2 years, congenital, city lifestyle, and less education⁽²⁴⁾.

In the present study, teenage mothers had a higher proportion of normal deliveries compared to adult mothers. This may be because teenage mothers give birth to smaller infants. These findings were in accordance with the studies of Ziadeh⁽²⁵⁾ but in contrast to studies of Scholl et al⁽²¹⁾. The proportion of operative deliveries was higher in adult mothers, and may be due to adult mothers having higher rates of cephalopelvic disproportions (CPD) and because adult mothers have higher rates of elective caesarean sections.

The present study found that cephalopelvic disproportion (CPD) was found to be more prevalent in the adult control group than in the teenage study group, similar to the findings of Horon et al⁽²⁶⁾ and Fraser et al⁽²⁷⁾. The authors' explanation for this observation is that teenage mothers in the present study delivered smaller infants and numbered a high proportion of pre-term labor cases. From the present study, the mean maternal age of the teenage study group was 17.75 years, therefore, indicating that the majority of mothers might have a bony pelvis that would be completely developed. This can also explain the low incidence for cephalopelvic disproportion (CPD) in this group.

The significant difference in neonatal outcomes between teenage and adult mothers was birth weight. A higher proportion of teenage mothers gave birth to low birth weight infants. This may be due to biological immaturity and a poor socioeconomic environment. This finding is consistent with many other studies⁽¹⁹⁾.

The present study aims to benefit maternal and child health team at Sungaikolok Hospital, Narathiwat. The present study found that poor antenatal care (< 4 visits) was significantly associated with low birth weight less than 2,500 gram and anemia. Therefore, it is encouraging to support adequate antenatal care and motivate teenage mothers to take care of themselves while pregnant.

Conclusion

A number of primigravida teenage mothers admitted to Su-ngai Kolok Hospital, Narathiwat

between 2005 and 2009 were 27.2% of primigravida women. The results showed that 23.6% of teenage mothers had anemia, 16.3% low birth weight, and 10.3% pre-term. This result was higher than the control group with statistical significant difference. Furthermore, after controlling factors that influenced low birth weight less than 2,500 grams, the present study found that poor antenatal care (< 4 visits) (odds ratio 1.91 95% CI 1.47-2.47) was significantly associated with low birth weight in teenage mothers.

After controlling factors that influenced anemia, the present study found that poor antenatal care (< 4 times) (odds ratio 1.53 95% CI 1.23-1.89), private antenatal care was significantly associated with anemia.

Potential conflicts of interest

None.

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ผลการตั้งครรภ์และภาวะแทรกซ้อนของมารดาวัยรุ่นครั้งแรกในโรงพยาบาลสุโขทัย-ลก จังหวัดนราธิวาส

ชัชววัฒน์ พัฒนาพิศาลศักดิ์

วัตถุประสงค์: เพื่อศึกษาความสัมพันธ์ระหว่างอายุของมารดากับการตั้งครรภ์และภาวะแทรกซ้อนจากการตั้งครรภ์และการคลอดในกลุ่มมารดาครั้งแรก

แบบวิจัย: เป็นการศึกษาแบบติดตามย้อนหลัง (Historical Cohort Study)

วัสดุและวิธีการ: การศึกษาครั้งนี้เป็นการเก็บรวบรวมข้อมูลจากสมุดบันทึกการคลอดของสตรีตั้งครรภ์ที่มีอายุน้อยกว่า 35 ปี ที่มาคลอดบุตรในโรงพยาบาลสุโขทัย-ลก จังหวัดนราธิวาส ระหว่างวันที่ 1 มกราคม พ.ศ. 2548 ถึงวันที่ 31 ธันวาคม พ.ศ. 2552 โดยศึกษาเฉพาะมารดาครั้งแรกและคลอดบุตรเมื่ออายุครรภ์ตั้งแต่ 28 สัปดาห์ หรือน้ำหนักตั้งแต่ 1,000 กรัมขึ้นไป โดยแบ่งเป็น 2 กลุ่ม คือ เป็นมารดาวัยรุ่น (< 20 ปี) จำนวน 796 ราย เป็นกลุ่มศึกษา และกลุ่มมารดาวัยเจริญพันธุ์ (20-34 ปี) จำนวน 2,126 ราย เป็นกลุ่มเปรียบเทียบ ข้อมูลที่ทำการศึกษา ได้แก่ อายุของมารดา การฝากครรภ์ อายุครรภ์ วิธีการคลอด ภาวะแทรกซ้อนจากการตั้งครรภ์และการคลอด คือ ภาวะโลหิตจาง น้ำหนักแรกคลอด และ Low Apgar Score (< 7) at 1 minute สถิติที่ใช้ในการวิเคราะห์ใช้สถิติเชิงพรรณนา สำหรับข้อมูลทั่วไป ได้แก่ จำนวน ร้อยละ ค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐาน และสถิติอนุมานเพื่อวิเคราะห์ความสัมพันธ์ระหว่างตัวแปร ได้แก่ Chi-square test และการวิเคราะห์การถดถอย โดยใช้สถิติ Multiple Logistic Regression เพื่อวิเคราะห์ปัจจัยเสี่ยงของการเกิดภาวะแทรกซ้อนจากการตั้งครรภ์และการคลอด เปรียบเทียบระหว่างมารดาวัยรุ่นที่อายุน้อยกว่า 20 สัปดาห์และมารดาวัยเจริญพันธุ์ที่มีอายุระหว่าง 20-34 สัปดาห์

ผลการวิจัย: พบมารดาวัยรุ่นตั้งครรภ์ครั้งแรกจำนวน 796 ราย คิดเป็นร้อยละ 27.2 มีระดับการศึกษาน้อยกว่ากลุ่มเปรียบเทียบมีการฝากครรภ์น้อยกว่า 4 ครั้ง บริการมากกว่ากลุ่มเปรียบเทียบอย่างมีนัยสำคัญทางสถิติ ภาวะแทรกซ้อนที่พบมากที่สุด คือ ภาวะซีด ทารกแรกคลอดน้ำหนักตัวน้อย การคลอดก่อนกำหนด คือ ร้อยละ 23.6 16.3 และ 10.3 ตามลำดับ ซึ่งสูงกว่ากลุ่มเปรียบเทียบอย่างมีนัยสำคัญทางสถิติ การฝากครรภ์น้อยกว่า 4 ครั้งเพิ่มโอกาสเกิดภาวะซีดและทารกแรกคลอดน้ำหนักตัวน้อยกว่า 2,500 กรัม 1.5 และ 1.9 เท่าตามลำดับ อายุครรภ์น้อยกว่า 37 สัปดาห์ เพิ่มโอกาสทารกแรกคลอดน้ำหนักตัวน้อยกว่า 2,500 กรัม 8.7 เท่า แต่ลดโอกาสเกิดภาวะซีด 0.7 เท่า

สรุป: มารดาวัยรุ่นมีการฝากครรภ์น้อยกว่ากลุ่มมารดาวัยเจริญพันธุ์ และมีโอกาสเสี่ยงต่อการเกิดภาวะแทรกซ้อนของการตั้งครรภ์สูงขึ้น โดยเฉพาะภาวะซีด ทารกแรกคลอดก่อนมีน้ำหนักน้อยและการคลอดก่อนกำหนด