

# Obstetric Outcome in Teenage Pregnancy in a Free Antenatal Care Setting in Southwest Nigeria

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**Aims:** The study was done to compare the obstetric outcome in teenage pregnancies with that of non-teenage pregnancies in a setting where antenatal care and delivery is free.

**Methods:** A retrospective case control study was conducted at the state specialist hospital Ondo southwest Nigeria between January 1st 2011 to December 31st 2011. The data regarding outcome of all teenagers (13-19) delivering in the hospital was compared with that of selected non-teenagers (20 -35 years) taken as control. Chi-square and student t- test was used with 0.05 as level of significance.

**Results:** There were a total of 3054 deliveries during the study period. Incidence of teenage pregnancy was 4.0% (n=122) with a mean age of 18years. Teenagers were more likely to have anaemia and malaria in pregnancy but less likely to have antepartum haemorrhage and preeclampsia. Teenagers are more likely to have spontaneous vagina delivery compared to non-teenagers. The perinatal outcome did not differ significantly.

**Conclusions:** The majority of the teenagers were nulliparous and most delivered spontaneously by the vaginal route. They are more likely to have instrumental delivery and less likely to have preeclampsia compared to older patients though this was not statistically significant.

**Keywords:** preeclampsia; teenage pregnancy; obstetric outcome.

## INTRODUCTION

Globally about 16 million women aged 15-19 years old give birth each year, this is responsible for about 11% of all births worldwide. Half of all the adolescents births occur in just seven countries; Bangladesh, Brazil, Democratic Republic of Congo, Ethiopia, India, Nigeria and United states.<sup>1</sup> Evidences on the outcome of teenage pregnancy are conflicting; several studies have found an increased incidence of anaemia, pre-term labour and prematurity and an increased incidence of operative deliveries among teenagers,<sup>2-4</sup>. In contrast, some of the authors have stated that there is no increased risk in teenage pregnancies after controlling for confounding variables.<sup>5</sup>

In our centre, all pregnant women have access to free antenatal care and delivery services hence there is

no difference in the extent of care. This study aims to determine the problems associated with teenage pregnancy with emphasis on outcome of labor.

## METHODS

This was a retrospective case control study. All pregnant women aged 13 -19 years who carried pregnancy to 34 completed weeks and above and delivered between January 1, 2011 to December 31, 2011 at the State Specialist Hospital Ondo had their case notes retrieved and analyzed with respect to their age, booking status, pregnancy, labour and delivery complications. The findings were compared to women aged 20-35 years who delivered immediately after the teenager and meets the inclusion criteria. This served as the control. Women with previous caesarean section, greater than 35 years of age and prior medical complications were excluded. Patients whose first presentation was during labor were regarded as unbooked. Delivery before 37weeks is classified as pre-term and more than 40 weeks is classified as postdate. Patients were classified as having anaemia if the Hemoglobin was < 10.0 g/dl or packed cell volume of 30%. Babies weighing <2,500

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g were labeled as low birth weight babies. Data collected was analyzed using SPSS 20. Chi-square was applied with 0.05 as level of significance.

## RESULTS

The total number of deliveries during the study period was 3054 out of which 122 were teenagers giving an overall frequency of 4.0%. The mean age of teenage mothers in the study was 18.0±1.08. Majority 44.3% (n= 54) were 18 years while 1.6% (n=2) of them were 14 years, the lowest age in the study. Majority of the teenage mothers 84% (n=103) were unmarried compared to 4% (n=5) in the control. Most of the teenage mothers 82.8% (n=101) were having their first baby compared to 41.8% (n=51) in the control. Less than one-fifth 17.2% (n=21) were having their second babies.

There was a statistical significant difference in the booking status of the cases compared to the control as 75.4% of the teenage mothers in the study were booked compared to 86.8% for non-teenage mothers (P= 0.047) (Table 1).

	Cases (n=122)		Control (n=122)		P value
	Percent	Frequency	Percent	Frequency	
Booked	75.4%	92	86.8%	106	
Unbooked	24.6%	30	13.2	16	
Total	100	122	100	122	

P= 0.047

Teenage mothers were significantly more likely to have anemia 22.1% (n=27) versus 9.8% (n=12) p=0.009, and were significantly more likely to deliver past their date 27% (n=33) versus 16.4% (n= 20) P= 0.044. Teenage mothers were also more likely to have malaria in pregnancy though the difference is not statistically significant. (25% versus 19% P= 0.318). There were no significant differences in the incidences of preeclampsia, antepartum haemorrhage (Table 2).

Antenatal complications	Cases (n=122)		Control (n=122)		P
	N	%	N	%	
Anaemia	27	22.1	12	9.8	0.009
Malaria	25	20.5	19	15.6	0.318
Past date	33	27	20	16.4	0.044
Antepartum haemorrhage	1	0.8	2	1.6	0.50
Pre-eclampsia	2	1.6	3	2.5	0.50

The caesarean section rate among the non-teenage mothers (control) was twice the rate for the teenage group (cases) 14.8% (n= 18) versus 7.4% (n = 9). The spontaneous vaginal delivery and assisted breech delivery rate were comparable. The incidence of instrumental delivery was higher among the teenage mothers 9 (7.4%) versus 4 (3.3%) p = 0.154 (Table 3).

	Cases (n=122)		Control (n=122)		P value
	%	Frequency	%	Frequency	
Svd	102	83.6	97	79.5	0.409
Cs	9	7.4	18	14.8	0.66
Abd	2	1.6	3	2.5	0.651
Inst	9	7.4	4	3.3	0.154
Total	122	100.0	122	100.0	

(svd = spontaneous vagina delivery, cs = caesarean section , abd = assisted breech delivery, inst = instrumental delivery).

The Apgar score at one minute was comparable between the two groups. The frequency of low birth weight was comparable 15.6% (n= 19) for cases compared to 13.1% (n=16) for the control. In the control group 4.9% (n=6) of babies had birth weight greater than 4.0 kg compared to none among the cases. Perinatal mortality was 49.2/1000 live births and 65.8/1000 births in the control. There was no maternal mortality in either group.

Perinatal outcome	Cases (n=122)		Control (n=122)	
	%	Frequency	%	Frequency
apgar score at 1 min				
<7	33	27	34	27.9
>7	89	73	88	72.1
Birth weight				
<2.5 kg	19	15.6	16	13.1
2.5- 4.0 kg	103	84.4	100	82
>4.0 kg	-	-	6	4.9

## DISCUSSION

The incidence of teenage pregnancy in this study was 4.0%. This is less than the National demographic health survey national rate of 23% and the southwest Nigeria regional rate of 9%.<sup>6</sup> It is also lower than the 13.1% reported from a study in Ilorin North central Nigeria<sup>7</sup> but higher than 1.67% from a study in Enugu southeast Nigeria.<sup>8</sup> This regional variation may be due to cultural and religious practices such as child

marriage, which is still prevalent in northern Nigeria. There is aversion to having a child outside wedlock hence this may be responsible for the low incidence in southeast Nigeria.

It is worrisome that 8.2% of the teenage mothers in this study are between 14-16 years old. The age of menarche in various studies within Nigeria is between 13.66 – 15.26 years.<sup>9,10</sup> It implies that the teenagers became pregnant within a year of attaining menarche; this reflects commencement of sexual intercourse at an early age with its consequences of teenage pregnancy, sexually transmitted infections, and cervical cancer amongst others.

The proportion of booked mothers was high in both the cases and the controls; this might be due to the free antenatal and delivery services. However, despite this there was a statistically significant difference in the booking status between teenage mothers and the control. (P=0.047).

Poor clinic attendance has been reported in other studies,<sup>2,11</sup> and some of the reasons adduced for this include poverty, which limits access in terms of affordability. This however was not applicable in our study population as antenatal care and delivery was free.

The incidence of anemia in our study was significantly higher among teenage mothers; this is similar to some other studies.<sup>12,13</sup> This could be because of suboptimal nutritional status at the onset of pregnancy. A higher incidence of clinical malaria in pregnancy was also seen among the teenager mothers and this might also contribute to the anaemia. Teenagers were significantly more likely to deliver beyond their dates, which is similar to the findings from some other studies.<sup>14</sup> This can be due to being unsure of their last menstrual period and also that the pregnancies were unplanned in most cases. Similar to some other studies there was fewer incidences of antepartum haemorrhage and preeclampsia.<sup>13</sup>

It is a common belief that teenagers are less mature physically and the size of the pelvis is small hence, a higher rate of caesarean section is expected. The lower caesarean section rate in this study may be due to reluctance of obstetricians to resort to caesarean section in teenagers especially those who are unmarried so as not to jeopardize their future relationships. The lower caesarean section rate was probably achieved at the expense of a higher instrumental delivery rate. A similar finding of higher instrumental delivery and lower caesarean section rate is found in some other studies.<sup>16</sup>

Low birth weight is closely associated with fetal and perinatal mortality and morbidity, inhibited growth and cognitive development and development of chronic diseases later in life. This study revealed a higher incidence of low birth weight babies amongst teenage mothers similar to findings in some other studies.<sup>13,15</sup> This can be attributed to the higher rate of anaemia and clinical malaria among the cases. There was no maternal mortality in both groups.

The major limitation of the study was the small number available for study.

## CONCLUSIONS

This study showed that with equal access to antenatal care services there is little or no difference in the obstetric complication faced by teenagers compared to non-teenagers. Preeclampsia, antepartum haemorrhage and caesarean section rate were less while instrumental delivery rate, anaemia and malaria in pregnancy was more adolescent reproductive health services should be made freely available to reduce the incidence of teenage pregnancies.

## DISCLOSURE

The authors report no conflicts of interest in this work.

No violation of human rights and safety.

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