



TEENAGE PREGNANCY OUTCOMES IN TEACHING HOSPITALS IN YAOUNDÉ

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ABSTRACT

Teenage pregnancies are high risk of maternal and perinatal complications. The objective was to analyze the outcomes of teenage pregnancies in primiparous. It was an analytical cross-sectional study from September 2012 to April 2013, in maternity wards of the University Hospital and the Central Hospital of Yaoundé. Sixty primiparous adolescents aged 14 to 19 years were compared to 100 primiparous aged 20 to 24 years who gave birth in the study sites. The demographic profile, prenatal care, labor, childbirth and newborns in birth rooms were analyzed. Data was expressed as frequencies and percentages and was analyzed by Chi square test or Fisher's exact test where appropriate for significance. Odds Ratio for association was calculated. P was significant when <0.05. Compared to adults, few teenagers: reached the university level (P <0.001) and took preventive treatment of malaria (p = 0.041). The adolescents had more fever during labor (p = 0.009) and their newborns had a low Apgar score (<7) in the first minute (p = 0.014). Poor prenatal care, fever during labor and a low Apgar score affect significantly teenage pregnancies.

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INTRODUCTION

According to the World Health Organization, about 16 million girls aged 15 to 19 years and 1 million girls aged under 15 years give birth each year representing 11% of global births, 95% occurring in low- and middle-income countries (Chandra-Mouli V, 2013). In teenagers, complications of pregnancy and childbirth are the second leading cause of death. New-borns of teenage mothers have a higher risk of low birth weight and a higher perinatal death 50% than those of mothers of 20 to 29 years old (Chandra-Mouli V, 2013).

In Cameroon, previous studies have shown that pregnancies in teenagers are high risk of preterm birth, fetal distress, use of oxytocin during labor, perineal tears and episiotomy (Tebeu PM, 2011). They also have a high risk of caesarean delivery and stillbirth (Nkwabong E, 2009). Transmission of HIV virus also increases with high rates of episiotomy and perineal tears (Nkwabong E, 2009). Furthermore, the risk of fetal growth retardation is high (Tebeu PM, 2011). However, teenagers still contribute for 9.3 to 14.23% of deliveries in Cameroon (Fouelifack FY, 2014) (Egbe TO, 2015) (Enquête Démographique et de Santé et à Indicateurs Multiples(EDS-MICS), 2011). This study was carried out to analyze mother and child outcomes in teenage pregnancies.

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Objective

To analyze maternal and neonatal outcomes in teenage pregnancies in order to improve on their management in Cameroon.

MATERIALS AND METHODS

It was a cross-sectional analytic study from September 2012 to April 2013 in two maternities: The Yaoundé University Teaching Hospital and the Yaoundé Central Hospital. A group of pregnant teenagers in first delivery, aged 14 to 19 years was compared to a group of primiparous young adults aged 20 to 24 years who gave birth in the two maternities during the study period. All those who met our inclusion criteria and gave their consent were involved. Were included consecutively teenagers and young adults in labor with singleton pregnancy at gestational age higher or equal to 28 weeks. A pre-tested questionnaire was used to collect data from delivery rooms registers and patient files. Data was collected on the following variables: sociodemographic characteristics, parity, quality of antenatal visits (number, site, quality of staff, prophylaxis), the number of obstetric ultrasound, pregnancy gestational age, the onset of labor, partogram features, type of delivery, Apgar score at first and fifth minute, foetal death and maternal death. The sample size calculation was based on a 30% prevalence of premature delivery among teenagers (Tebeu PM, 2011). Data were analysed using Epi-Info version 7. Data was expressed as

frequencies and percentages and analysed by Chi square test or Fischer's exact Test where appropriate. Odds Ratio and 95% confidence interval for association was calculated. A p-value of <0.05 was considered statistically significant.

## RESULTS

Concerning socio-demographic characteristics, fewer teenage mothers: had reached the university level of education (17% vs 68 %; P < 0.001); were married (26% vs 54 %; p< 0.001) and stayed at husband houses compared to adults (26.7% vs 54%; p<0.001). Teenage mothers were more likely to be employed compared to adult mothers (80% vs 59%; P < 0.006) (Table I).

**Table I** Significant Sociodemographic Characteristics

Variables	Maternal age group		Total n(%)	P value
	14-19 years n(%)	20-24 years n(%)		
Average age (SD)	18.15 (1.06)	22.64 (1.25)	20.96 (2.48)	<0.001
Level of education				< 0.001
Primary	11(18)	5(16)	16(10)	
Secondary	39(65)	26(26)	65(40)	
University	10(17)	68(68)	78(48.8)	
Living conditions				< 0.001
Alone	1(1.7)	11(11)	12(7.5)	
WithUncle / Aunt	2(3.3)	0(0.0)	2(1.3)	
With a brother / sister	39(65)	26(26)	76(40)	
With parents	9(15)	14(14)	23(14.3)	
Withboth parents	25(41.7)	19(19)	44(27.5)	
Withpartner / husband	16(26.7)	54(54)	70(43)	
Parental occupation				0.006
Unemployed	12(20)	41(41)	53(63)	
Employee	48(80)	59(59)	107(66.9)	

With regard to antenatal visits, adults' mothers were approximately 3 times more likely to have had previous pregnancies compared to teenage mothers (73.3% vs 49.0%) (OR, 2.81; 95% CI, 1.50 - 5.31 : p=0.003) and were 2.34 times more likely to have taken Intermittent Preventive Treatment against malaria compared to teenage mothers (82.8% vs 64.0%) ; (OR, 2.34; 95% CI, 1.27-4.54 : p = 0.041). Both groups were similar with regard to the number and site of antenatal visits, quality of staff attended and number of ultrasonography examinations done (Table II).

**Table II** Significant Features of Prenatal Care

Variables	Maternal age group		Total n(%)	OR (95%CI)	P value
	14-19 years n(%)	20-24 years n(%)			
Previous pregnancies					
1	44(73.3)	49(49)	93(58.1)	2.81(1.5-5.31)	0.003
2 à 4	16(26.7)	51(51)	67(41.9)		
*IPT					
0 dose	3(6)	3(3.2)	6(4.2)	2.34(1.27-4.54)	0.041
1 dose	15(30.0)	13(14.0)	28(19.6)		
2-3 doses	32(64)	77(82.8)	109(76.2)		

\*IPT: Intermittent preventive treatment of malaria

Data on labor, delivery and neonatal status did not show a significant difference in both groups on gestational age at delivery, onset of labor and duration of labor. On contrary, teenage mothers had five-fold more fever during labor than their counterparts attributed to malaria (16.7% vs 4.0%), (OR, 4.92; 95% CI, 1.51-8.73: p=0.009). Poor Apgar score below 7 in the first minute was more frequent among newborns from teenage mothers than in the newborns from the adult mothers (OR, 2.07; 95% CI, 1.29-3.34: p=0.014), but the difference

was not significant in the fifth minute. Fetal death was 5.0% among teenage deliveries and 2.0% among adult deliveries without significant difference. No maternal death occurred (Table III).

**Table III** Significant Characteristics of Labor and Childbirth

Variables	Maternal age group		Total n(%)	OR (95% CI)	P value
	14-19 years n(%)	20-24 years n(%)			
Intrapartum fever					
Yes	10(16.7)	4(4)	14(8.8)	4.92 (1.51-8.73)	0.009
Average Apgar score					
1st minute (SD)	6.72 (2.37)	7.55 (1.83)	7.24 (2.08)	2.07 (1.29-3.34)	0.014
5th minute (SD)	7.8 (3.21)	8.72 (2.37)	8.38 (2.74)	2.0 (0.94-4.27)	0.004
Intrapartumdeath					
Yes	3(5.0)	2(2.0)	5(5.1)	2.58 (0.41-7.58)	0.364

## DISCUSSION

In the present study 26% of teenagers were married, reflecting the general figure of marital status in this age group in our country as shown in previous studies (Ekanem AD, 2001;) (*Enquête Démographique et de Santé et à Indicateurs Multiples(EDS-MICS), 2011*) where 14.9% of adolescents of 15 to 19 years old were married and 35.8% pregnant adolescents of 14 to 19 years were married respectively. Our results are different from what is known in some low- and middle income countries where early marriages are common in pregnant teenagers (Nair A, 2015)and reach a level of 99.65% in Egypt. In this study, only 17% of teenagers attained tertiary level of education. Even when those with a secondary level of education are added, the educational level in the older group was still higher. This is different from results of the most recent Demographic and Health Surveys conducted in 2011 in Cameroon, where the girls of 15 to 19 years old were more literate with 62.7% being at secondary or tertiary level compared to 54% of women aged 20 to 24 years old at the same level of education (Nair A, 2015). The difference may be explained by the hospital-based data that might differ from population-based data.

A non-statistically significant trend was observed among teenage mothers and their counterparts in terms of number of antenatal visits, level of health facilities and quality of staff they attended. This trend was similar to that reported in other studies in Egypt (Edessy M, 2014)with 93.6% of teenagers and 91.7% of adults attending antenatal visits. The same observation was made in Cameroon (Egbe TO, 2015) with 40.5 % teenagers and 42.2 % adults respectively who attended at least 4 antenatal visits without a significant difference. Other studies gave different trends (Kongnyuy EJ, 2008) in Cameroon and (Iloki LH, 2004)<sup>13</sup> in Congo Brazzaville with a high prevalence of non-attendance of antenatal visits up to 22.1% in Congo. In spite of a good attendance of antenatal visits, we observed a poor compliance to intermittent treatment of malaria with only 64% teenage mothers being on scheduled treatment compared to 82.8 % of adults (p-value=0.041). This poor compliance was a mark of inappropriate antenatal care. Furthermore, there was a five-fold tendency of having fever among teenage mothers during labor. The fever was attributed to malaria. Similar findings were reported by iloki et al. (Iloki LH, 2004)who had 14.1% of fever among teenage mothers and 7.3% among adults. The

poor compliance to scheduled IPT of malaria may explain the occurrence of fever due to malaria among teenage mothers.

In our study there was a two-fold probability of having Apgar score below 7 at first minute in neonates from teenage mothers. Similar results were reported (Iloki LH, 2004). Other studies, (Kemfong Ngowa JD K. J., 2015), (Fouelifack FY, 2014) and (Kumbi SI, 1999) did not find a significant difference in Apgar score as well in the first minute as in the fifth minute. An association exists between poor quality of antenatal care, fever during labor and abnormal Apgar score at birth (Fouelifack FY, 2014)<sup>16</sup>. No post-term, no prolonged or obstructed labor was found to justify this predominance of abnormal Apgar score among neonates in teenage mothers' group.

Teenage pregnancy is still associated with adverse maternal and neonatal outcomes. This is due to poor attendance of antenatal care, high frequency of fever due to malaria and poor Apgar score in neonates. There is a need to implement specific health programs focused on the access of teenagers to reproductive health programs and pregnancy care.

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