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Original Research Article

Outcomes of Labour among Adolescents in At the central hospital of Yaounde

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Abstract: ***Background:*** The estimated global adolescent birth rate has decreased, but the actual number of childbirths to adolescents continues to be high. Labour and delivery outcomes associated with adolescent pregnancy (AP) are useful tools for advocacy towards improving their health. ***Objective*****:** Our aim was to study labour outcomes among adolescent girls at the central hospital of Yaoundé (CHY). ***Methods*****:** We conducted a retrospective cohort study covering a period of 3 years from January 2022 to December 2024 at the CHY. SPSS version 23 was used for analysis. Pearson's chi-square test and Student's T test were used to compare proportions and means, respectively. Exposed and unexposed group characteristics were compared by calculating the Relative Risks (RR), together with the 95% confidence interval (CI). The level of significance was $p < 5\%$. ***Results*****:** We recorded 6,145 deliveries (7.3% in adolescent girls) and 69 birth-related deaths (11.6% in adolescents). Out of 270 complete files retained, comprising 92 adolescents (exposed) and 178 adults (unexposed). Adolescents had fewer antenatal contacts (58.7% attending <4 visits). The RR for maternal mortality in adolescents was 1.66 while preterm birth and low birthweight were more common in the same group. ***Conclusion*****:** Adolescent pregnancy increases risks of adverse maternal and foetal outcomes. A factor associated to these poor outcomes is sub-optimal ANC attendance.

Keywords: Adolescent Mother, Adolescent Pregnancy, Maternal Outcome, Neonatal Outcome, Yaoundé.

INTRODUCTION

Adolescent pregnancy (AP) is a global public health problem and requires very complex and long-term solutions [1]. Adolescence can be sub-divided into early (10–14 years), middle (15–17 years), and late (over 17 years) adolescence [2].

According to the World Health Organization (WHO), APs affect both developed and developing countries. Even though the global adolescent birth rate has decreased from 64.5 to 41.3 per 1000 women between 2000 and 2023 [1-3], the actual numbers of childbirths from pregnant adolescents remains high, with considerable disparities between and within countries.

In the WHO African Region, the estimated adolescent birth rate in Sub-Saharan Africa was 97.9 per 1,000 adolescents in 2023, while in the European Region, it was 13.1 per 1,000 adolescent girls [4]. A 2018 study in Cameroon, using retrospective data from 2009 to 2016, revealed that adolescents constituted 21.5% (78 out of 363) of all deliveries [5]. The factors that predispose adolescents to pregnancy in our setting include cultures, early marriages, poor access to modern contraception, low level of education, and low socio-economic status [6].

Another 2023 study carried out in Bamenda, Cameroon found that the adverse foetal outcomes associated with AP are low birth weight (<2500 g), still birth, prematurity, and high rate of neonatal admission. The adverse maternal outcomes of AP were mainly perineal tears contrasting with a significantly low rate of episiotomy. The factors associated with AP were low level of education, residing in a rural area, and low income level [7].

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AP rates and risks highlight the need for evidence-based interventions that are tailored to this population. However, in Cameroon, there is limited research that has comparatively explored, the labour outcomes of AP. This data is crucial to enable anticipation in management and to guide interventions and further research toward reducing morbidity and mortality due to AP [8]. The primary objective of this study, therefore, was to study labour outcomes among adolescent girls compared to adult women in At the central hospital of Yaounde.

MATERIALS AND METHODS

Study Design and Setting

We carried out a two-step study: cross-sectional and retrospective cohort, at the central hospital of Yaoundé (CHY). The study lasted six months, from January through June 2025. We studied the delivery register and medical records of mothers aged 10-19 years (exposed group) and 20 years or older (unexposed group) who gave birth at CHY from January 2022 to December 2024. All incomplete files and deliveries with comorbidities (chronic hypertension, diabetes mellitus, or cardiac, renal, endocrine or autoimmune disease, or prior surgical problem) were excluded in the second (cohort) arm of the study.

We collected socio-demographic (age, occupation, resident, level of education, religion, marital status), and obstetric/clinical (gravidity, parity, contraceptive knowledge and use, number of ANC, GA at first ANC and at delivery) data. We recorded maternal complications (postpartum haemorrhage, uterine rupture, perineal tear, episiotomy) and foetal complications (prematurity, low birth weight, poor Apgar score, admission to Neonatal Intensive Care Unit (NICU)).

Data Collection and Statistical Analysis

We obtained ethical clearance from the institutional Ethics Review Board of the Faculty of Medicine and Biomedical Sciences of the University of Yaoundé 1 and administrative authorisation from the management of the study site. We then studied the delivery registers of the study hospital to identify deliveries of adolescent and adult women. We then searched for their files to complete data the cohort arm. We collected data using a pretested questionnaire and subsequently entered them into Epi info version 7.0 statistical software package. We made sure all personal information was coded, data stored on a password protected device and that the study was conducted in accordance with the Declaration of Helsinki.

Analyses were done with the IBM's Statistical Package for Social Sciences, version 23. The Pearson's chi-square test was used for comparison between categorical data and the Student's T test for numerical data. Outcomes in the exposed and unexposed groups were compared by calculating the Relative Risk and the 95 % confidence intervals (CIs) determined. All p-values less than 0.05 were considered statistically significant.

RESULTS

There were 6,145 deliveries (5,696 in women 20 or older and 449 (7.3%) in girl ≤19). There were 69 delivery-related maternal deaths (61 in women >19, and 8 (11.6%) in adolescent girls). The RR of maternal death for adolescent women was 1.66 (95% CI:0.80-3.45, p-value: 0.17). We found 307 complete files and retained a total of 270 women who met our selection criteria for the cohort arm (92 exposed and 178 unexposed).

Sociodemographic Profile of the Study Population

The adolescent mothers were aged between 15 and 19 years with a median age of 18, while the unexposed were between 20 and 34 years old with a median age of 28 years. The general median age was 23 years.

More than three quarters of the respondents were single (79.6%), even more so in the exposed group (89.1%). The dominant level of education was the secondary (48.9%), pulled by a 72.9% prevalence among adolescent mothers. Most mothers were students (37.4%) and 95.2% lived in the urban setting. The most represented region of origin was the centre, with 45.9% of deliveries, and 51.1% among adolescent mothers. Muslims mothers were fewer (13.3%), but had a significant 21.7% contribution to adolescent delivery (Table I).

Table I: Socio-demographic characteristics of women who gave birth at the central hospital, from 2022 to 2024

Variable	Categories	Exposed (*N=92) n (%)*	Unexposed (*N=178), n (%)*	Total (*N=270) n (%)*	P value
Marital Status	Married	10 (10.9)	45 (25.3)	55 (20.4)	0.005
	Single	82 (89.1)	133 (74.7)	215 (79.6)	
Level of formal education	Primary or none	9 (9.8)	11 (6.2)	19 (7.0)	<0.001
	Secondary/High	67 (72.9)	65 (36.5)	132 (48.9)	
	University	16 (17.3)	102 (57.3)	118 (43.7)	
Occupation	Civil servant	0 (0.0)	28 (15.7)	28 (10.4)	0.001
	Housewife	15 (16.3)	41 (23.0)	56 (20.7)	
	Informal	15 (16.3)	45 (25.3)	60 (22.2)	
	Private sector work	0 (0.0)	19 (10.7)	19 (7.0)	

Variable	Categories	Exposed (*N=92) n (%)*	Unexposed (*N=178), n (%)*	Total (*N=270) n (%)*	P value
	Student	59 (64.1)	42 (23.6)	101(37.4)	
	Unemployed	3 (3.3)	3 (1.7)	6 (2.2)	
Region of Origin	Adamawa	10 (10.9)	3 (1.7)	13 (4.8)	0.002
	Centre	47 (51.1)	77 (43.3)	124 (45.9)	
	North	6 (6.5)	6 (3.4)	12 (4.4)	
	West	16 (17.4)	42 (23.6)	58 (21.5)	
	Others	13 (14.1)	50 (28.0)	63 (23.3)	
Religion	Christian	72 (78.3)	162 (91.0)	234 (86.7)	0.011
	Muslim	20 (21.7)	16 (9.0)	36 (13.3)	
Place of Residence	Rural	2 (2.2)	11 (6.2)	13 (4.8)	0.261
	Urban	90 (97.8)	167 (93.8)	257 (95.2)	

Obstetrical Characteristics of the Study Population

Participants were most commonly primigravidas (46.7%), but even more so were adolescent mothers (p-value <0.001). Parity showed the same trend. A history of previous abortion was significantly more common in adult women (27.5 vs 9.8%).

With regards to antenatal contacts (ANCs), overall, 59.6% had 4 or more, but the proportion was significantly smaller (41.3) in the AP group. Only a third of women (31.5%) started ANC in the first trimester of pregnancy, with a significantly smaller figure (13.0%) in the AP group (table II).

Table II: Distribution of obstetrical characteristics of parturient adolescents and adult women at the central hospital of Yaoundé from 2022-2024 (N=270)

Variable/ Categories	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	Total *N=270; n (%)*	P value
Gravidity				
One	**75 (81.5)**	**51 (28.7)**	**126 (46.7)**	**<0.001**
>1	17 (28.7)	127 (72.5)	144 (53.3)	
Parity				
≥1	**8 (8.7)**	**109 (61.2)**	**117 (43.3)**	**<0.001**
0	84 (91.3)	69 (38.8)	153 (56.7)	
Previous abortion				
Yes	**9 (9.8)**	**49 (27.5)**	**58 (21.5)**	**<0.001**
No	83 (90.2)	129 (72.5)	212 (78.5)	
ANC number				
< 4 ANC	**54 (58.7)**	**55 (30.9)**	**109 (40.4)**	**<0.001**
≥ 4 ANC	38 (41.3)	123 (69.1)	161 (59.6)	
ANC 1				
2nd or 3rd trimester	80 (87.0)	105 (59.0)	**185 (68.5)**	**0.001**
In 1st trimester	12 (13.0)	73 (41.0)	85 (31.5)	

ANC: antenatal contact

Comparison of Pregnancy Outcomes between Adolescent and Adult Mothers Pregnancy and Labour

The prevalence of documented anaemia in pregnancy was 3.0% with no significant difference between the two groups. With respect to AP, there was no significant difference in induction of labour frequency (RR=0.88, p-value 0.720), and in frequency of augmentation of labour (RR=0.80, p=0.595). The risk of caesarean delivery in AP was not significantly increased (RR: 1.37; p=0.131), as shown in table III.

Table III: Comparison of labour type and delivery route among adolescent (N=92) and adult (N=178) mothers at the central hospital of Yaoundé; 2022-2024

Variable	Category	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	RR (95% CI)	P-value
Anaemia in pregnancy	**Yes**	**5 (5.4)**	**3 (1.7)**	**3.22(0.79 – 13.15)**	0.118
	No	87 (94.6)	175 (98.3)		
Pregnancy-related illness	**Yes**	**35 (38.0)**	**39 (21.9)**	**1.74(1.18 – 2.53)**	0.004
	No	57 (62.0)	139 (78.1)		
Malaria diagnosis in pregnancy	**Yes**	**28 (30.4)**	**34 (19.1)**	**1.59(1.04 – 2.44)**	0.036

Variable	Category	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	RR (95% CI)	P-value
	No	64 (69.6)	144 (80.9)		
Labour induced	**Yes**	**10 (10.9)**	**22 (12.4)**	**0.88 (0.43 – 1.78)**	0.720
	No	82 (89.1)	156 (87.6)		
Labour augmentation	**Yes**	**7 (7.6)**	**17 (9.6)**	**0.80 (0.34 – 1.85)**	0.595
	No	85 (92.4)	161 (90.4)		
Delivery by Caesarean section	**Yes**	**29 (31.5)**	**41 (23.0)**	**1.37 (0.91 – 2.05)**	0.131
	No	63 (68.5)	137 (77.0)		

Maternal Outcome/Complications

Overall we had 51 cases with at least one maternal complication (55.4%) among adolescent mothers and 80 (44.9%) among adult mothers, with RR=1.23 (CI: 0.96 – 1.57), and p-value = 0.102. There was no significant difference in occurrence of genital tract lacerations, premature rupture of membranes, or intrapartum haemorrhage. However, adolescent mothers were more likely to experience haemorrhagic shock (RR: 7.73; CI: 0.87 – 68.24; p=0.047), as shown in table IV.

Table IV: Comparison of maternal outcomes between adolescent and adult mothers at 03 hospitals in Yaoundé from 2022-2024

Variable	Category	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	RR (95% CI)	P-value
Maternal complication (1 or more)	Yes	51 (55.4)	80 (44.9)	1.23 (0.96 – 1.57)	0.102
	No	41 (44.6)	98 (55.1)		
Genital tract laceration	Yes	27 (29.3)	43 (24.2)	1.21 (0.80 – 1.83)	0.356
	No	65 (70.7)	135 (75.8)		
Premature rupture of membranes	Yes	23 (25.0)	34 (19.1)	1.31 (0.82 – 2.08)	0.260
	No	65 (75.0)	144 (80.9)		
Postpartum haemorrhage	Yes	6 (6.5)	4 (2.2)	2.90 (.84 – 10.02)	0.078
	No	86 (93.5)	174 (97.8)		
Intrapartum haemorrhage	Yes	0 (0.0)	2 (1.1)	Omitted	0.549
	No	92 (100.0)	176 (98.9)		
Haemorrhagic shock	Yes	4 (4.3)	1 (0.6)	7.73 (0.87 – 68.24)	0.047
	No	88 (95.7)	177 (99.4)		

Foetal Complications

Overall number of cases with foetal complications were 41 (44.6%) among adolescent and 36 (20.2%) among adult mothers, with RR = 2.20 (CI: 1.52 – 3.19) and p-value <0.001. Adolescents had a significantly increased risk for prematurity, low birth weight, need for NICU admission, markedly higher proportions of low Apgar scores at the first and fifth minutes, as shown in table V.

Table V: Comparison of foetal outcome between adolescent and adult mothers at the central hospital of Yaoundé from 2022 to 2024

Variable	Category	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	RR (95% CI)	P-value
Fœtal complication (1 or more)	**Yes**	**41 (44.6)**	**36 (20.2)**	**2.20 (CI : 1.52-3.19)**	**<0.001**
	No	51 (55.4)	142 (79.8)		
Prematurity	**Yes**	**34 (37.0)**	**28 (15.7)**	**2.43 (1.52 – 3.62)**	**<0.001**
	No	58 (63.0)	150 (84.3)		
Low birth weight (<2500g)	**Yes**	**32 (34.8)**	**30 (16.9)**	**2.06 (1.34 – 3.17)**	**0.001**
	No	60 (65.2)	148 (83.1)		
Post term	**Yes**	**5 (5.4)**	**7 (3.8)**	1.38 (0.45 – 4.23)	0.570
	No	87 (94.6)	171 (96.1)		
Foetal malformation	**Yes**	**1 (1.1)**	**0 (0.0)**	Omitted	0.163
	No	91 (98.9)	178 (100.0)		
ICU admission	**Yes**	**32 (34.8)**	**27 (15.2)**	**2.29 (1.46 – 3.58)**	**<0.001**
	No	60 (65.2)	151 (84.8)		
Foetal death	**Yes**	**6 (6.5)**	**7 (3.9)**	1.66 (0.57 – 4.79)	0.376
	No	86 (93.5)	171 (96.1)		
Foetal distress	**Yes**	**29 (31.5)**	**22 (12.4)**	**2.55 (1.55 – 4.17)**	**<0.001**

Variable	Category	Exposed *N=92; n (%)*	Unexposed *N=178; n (%)*	RR (95% CI)	P-value
	No	63 (68.5)	156 (87.6)		
Apgar score at 1 minute	**Low (<7)**	**27 (29.3)**	**17 (9.6)**	**3.09 (1.77 – 5.34)**	**<0.001**
	Normal (≥7)	65 (70.7)	161 (90.4)		
Apgar score at 5 minutes	**Low (<7)**	10 (10.9)	8 (4.5)	**2.**42 (0.98 – 5.92**)**	0.069
	Normal (≥7)	82 (89.1)	170 (95.5)		

ICU: Intensive care unit

DISCUSSION

Sociodemographic and Obstetric Characteristics of the Study Population

a. Sociodemographic Characteristics of the Study Population

The age range of the 270 participants was 15-34 years with a mean age of 24.2 ± 5.88 years. Furthermore, 92 (34.1%) of the participants were adolescents and 178 (65.9%) adults. The adolescent mothers were aged between 15 and 19 years with a median age of 18, while the adults were between 20 and 34 years old with a median age of 28 years. This is similar to the result obtained in 2023 study in Bamenda where the adolescent participants had a mean age of 17.49 ± 0.63 years and the adult group 28.43 ± 5.64 years [7].

Adolescent mothers were predominantly single (89.1% vs 74.7%), unemployed or student (67.4% vs 39.6%), and less educated, with most having completed only a secondary or lower-level of education (82.7% vs 42.7%). These findings are consistent with previous studies in Buea and Bamenda, which reported similar patterns among adolescent mothers [7-10]. These characteristics could influence labour outcomes both directly and indirectly. Being single and unemployed potentially limit financial and social support which in-turn affects quality of antenatal care, and ability to seek emergency obstetric services. Lower educational attainment on its part affects health literacy. Collectively, these factors make adolescent mothers more liable to poor outcomes.

b. Obstetric Characteristics

A total of 46.7% of all participants were primigravidas, with a much higher proportion of 81.5% (75/92) among adolescents. Similar findings have been reported in Cameroon. Notably, two studies conducted in Buea found that approximately 73% of adolescents were primigravida [7-10]. While a multi-country study across 29 countries in Africa, Asia, Latin America and the Middle East equally reported a markedly higher proportion of primigravidas among adolescent mothers [11]. This predominance is expected given their younger ages and shorter reproductive history. The same pattern is seen with parity and previous abortions.

More parturient women had less than 4 ANCs in the adolescent group (58.7% vs 30.9%), and fewer adolescent than adult women started ANC in the first trimester (13% vs 41%). Globally, about 69% of pregnant women achieve at least 4 ANCs, with lower figures in West and Central Africa (56%) [12]. Another study of 101 pregnant adolescents in Yaoundé in 2022 reported 97% ANC4 attainment, with 58.4% before 12 weeks of pregnancy [13]. However, the latter study was carried out at four District (secondary level) hospitals, closer to the populations they serve. In contrast, referral hospitals, receive cases from far and near usually with complications that may tend to have received less ANC care.

Comparison of Pregnancy Outcomes between Adolescent and Adult Mothers

Foetal Outcomes

Our study found a significantly higher overall risk of adverse foetal outcomes (at least 1 foetal complication) among adolescent mothers compared to adult mothers (RR=2.204, CI=1.52–3.19, p=<0.001). This is consistent with reports in the literature that adolescent pregnancies carry increased perinatal morbidity [11-14]. Notably, neonates born to adolescents were significantly more likely to be born preterm (RR=2.43, CI=1.52–3.62, p=0.001), require NICU admission (RR=2.29, CI=1.46–3.58, p=<0.001), experience perinatal asphyxia (RR=2.55, CI=1.55–4.17, p=<0.001), have low birthweight (RR=2.064, CI=1.34–3.17, p=0.001), and low Apgar scores (<7) at the first and fifth minutes. These findings align with prior studies in Cameroon (2025) and Uganda (2024), and a WHO multi-country analyses (2014), which showed that adolescent mothers have significantly higher risks of preterm birth, low birthweight, birth asphyxia, and neonatal mortality compared to older women [10-16]. Similarly, a US study (2016) and a Sub-Saharan African study (2016) both reported that neonates born to adolescent mothers were more likely to be born preterm, have low birthweight and low Apgar scores, and require NICU admission [17, 18]. These outcomes likely stem from suboptimal intrauterine conditions linked to biological immaturity, maternal undernutrition, inadequate or delayed ANC (as shown in our data), and premature labour or infections. So, overall, the higher risks of preterm birth, foetal distress, and foetal demise observed in our study are consistent with existing reports that adolescent pregnancies are at increased risk of adverse foetal outcomes [19, 20].

Maternal Outcomes

Regarding pregnancy and obstetric factors such as mode of delivery, labour induction and augmentation, premature rupture of membranes, and genital tract lacerations, we found no statistically significant

associations. However, many of these variables showed clinically relevant trends. This aligns with recent cohort data indicating that interventions for adolescent pregnancies differ from those for adults. A 2024 retrospective cohort study involving over 3.6 million deliveries found that adolescent mothers had lower rates of caesarean delivery and labour induction compared to older women. However, they still faced an increased risk of certain adverse outcomes, such as preterm birth, indicating differences in obstetric management that are clinically important though not always statistically significant after adjustment [19].

With respect to postpartum maternal outcome, adolescent mothers had a RR of adverse overall maternal outcome compared to adult women of 1.23 (CI=0.96–1.57, p= 0.102). Similarly, the RR for PPH was 2.9 (CI: 0.84 – 10.02, p=0.078) and adolescents were more likely to suffer from haemorrhagic shock (RR=7.73), but statistical significance were conflicting (CI=0.87–68.24, p=0.047). This is however consistent with prior studies which reported elevated risks of adverse outcomes such as anaemia, preterm birth, hypertensive complications, and PPH in some subgroups, emphasizing that maternal risks may be more pronounced among younger mothers [19, 20].

Though not statistically significant, the differences we observed could indicate a tendency to increased maternal morbidity among adolescents and the lack of statistical significance may be due to our modest sample size. The higher proportions of nulliparas, and suboptimal antenatal care are reported to increase their vulnerability [21]. These women are usually predisposed to haemodynamic instability by a low haemoglobin level and an overall smaller blood volume in relation to their smaller body size.

Genital lacerations occurred in 29.3% of adolescents compared to 24.2% among adult women. Higher proportion differences have been reported in a multicentric study in Romania, where 74.8% adolescents compared to 50.2% adults had genital soft tissue injury [22]. This could be explained by the biological immaturity linked to the younger ages and predominant primigravida status, both of which have been reported as risk factors for perineal lacerations [22, 23].

Premature rupture of membranes (PROM) affected 25.0% of adolescents compared to 19.1% of adult women in our study. This is consistent with prior studies. A 2019 Bosnian study reported a significantly higher incidence of PROM among their adolescent group. Similarly, an earlier study in Cameroon equally identified an association between adolescent age and PROM [19-24]. This may be owing to inadequate antenatal care, nutritional deficiencies common among the sociodemographic group in our study.

Proportion of Adolescent Births and Delivery Related Mortality

Our data shows a tendency to a higher risk of maternal death related to delivery for adolescent mothers, compared to adult women (RR=1.66, CI=0.80–3.45, p=0.17). While this finding was not statistically significant, it aligns with the broader tendency for this variable. A comprehensive systematic review and meta-analysis conducted in 2024 revealed that adolescent maternal mortality rates in sub-Saharan Africa often surpass those of older women, with adolescent pregnancy in certain contexts contributing significantly to the overall maternal death toll [3-25]. Meanwhile, a meta-analysis of studies from 144 countries in 2014 reported a slightly increased risk of mortality in adolescents compared with women aged 20–24 years, and the highest risk in women older than 30 years. Analysis for individual countries showed substantial heterogeneity [26]. Worthy of note, in our study, maternal deaths before delivery, including complications of abortion, were not included.

Factors Associated with Complications of Adolescent Pregnancy

Factors associated with AP cut across many aspects such as socio-economic, sociocultural and psychological factors that could be an important determinant of AP [7]. This study identified several factors associated with an increased risk of complications. Notably, single was significantly associated with poor outcomes (RR=1.19 CI=1.06-1.33, p=0.005). This finding is consistent with prior research demonstrating that unmarried adolescent mothers faced higher risks of obstetric complications and adverse neonatal outcomes. A study conducted in Buea reported a strong association between single marital status and adverse outcomes among adolescent mothers (OR=9.08, CI=3.21-25.69, p=<0.001) [9]. Another 2024 study in Yaoundé equally highlighted being single as a contributing factor to poor obstetric outcomes [25].

First-time adolescent mothers were strongly associated with adverse outcomes (RR=2.845, CI=2.21 – 3.66, p=<0.001), confirming existing evidence that primigravid mothers represent a high-risk group. Many studies have shown that younger primiparous mothers have higher risks of preterm birth, hypertensive disorders, obstructed labour, perineal trauma [11-16]. This could be because adolescents may be biologically and emotionally less prepared for childbirth. The physiological immaturity of the pelvis, coupled with limited childbirth experience, may predispose adolescents to complications such as obstructed labour, perineal trauma, and haemorrhagic complications.

In our study, inadequate antenatal care (ANC) was also associated with adverse outcomes among adolescents. Attending fewer than four ANC visits (RR=1.90, CI=1.438–2.510, p=<0.001), and late onset of ANC visits (RR=1.47, CI=1.274–1.700, p=0.001) were

significantly associated with complications. A UK study showed a 5.37-fold increased risk of LBW (95% CI: 4.31-6.70) in mothers who started ANC after 20 weeks of gestation [26]. Other prior Sub-Saharan studies conducted in Cameroon and Kenya have equally reported that suboptimal ANC is associated with increased risks of obstetric and perinatal complications [25, 27].

Late initiation and inadequate ANC attendance reduce the opportunity for early risk detection and timely management, predisposing these women to adverse maternal and foetal outcomes. This late first ANC visit in adolescents has been previously reported and linked to poverty, inadequate support from families, social stigma and even the judgmental attitudes from some healthcare providers [9-27].

Limitations

This study was retrospective and the sample size was modest. A potential limitation, therefore, is the risk of bias because we relied on existing medical records, with some reports having incomplete data. Furthermore, the study is Limited to one referral hospitals in Yaoundé which keep more detailed user records. The selective tendency related to referral may make some observations not to reflect the general population, particularly the rural areas. Therefore, fact that women with complications are more likely to be referred, introduces a selection bias that may have caused an overestimation of the overall occurrence of adverse outcomes.

CONCLUSION

Adolescent pregnancy is associated with increased risks of adverse maternal and foetal delivery outcomes, and possibly, a tendency to higher delivery related mortality. These risks appear to be linked to sociodemographic factors, primigravidity, and inadequate ANC. Neonatal complications associated with adolescent motherhood include preterm birth, low birthweight, foetal distress, ICU admission, and low Apgar scores.

These findings support the classification of adolescent pregnancy as a high-risk obstetric condition. Hence, the need to strengthen adolescent friendly reproductive health services, promote family planning and improve access to adequate ANC for this special group.

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Ethical Approval: The study was approved by the Institutional Ethics Committee of the faculty of medicine and biomedical sciences, of the University of Yaoundé 1.

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