

Management of Pregnancy and Childbirth among Adolescents at the Regional University Teaching Hospital of Parakou

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Abstract

Objective: Investigation on the management of childbirth among adolescents at the CHD-U of Parakou (Benin)

Patients and study method: It was a cross-sectional study with descriptive purpose carried out during the period from March 1 to August 31, 2014. Its target consisted of 110 primiparous adolescents aged 14-19 years. The study was conducted in the gynecology and obstetrics unit of the Regional University Teaching Hospital of Borgou/Alibori in Parakou.

Results: Childbirth prevalence among female adolescents was 12.7%. The mean age of those adolescents was 17.7 ± 1.4 years. The adolescent mothers with student status dominated with 33.6%, 56.4% were married, 32.7% were not educated. 72.7% of them had a low socioeconomic status. 60.0% of the cases did not benefit from a lack of pregnancy monitoring or the latter was of poor quality among them. Dystocia were the diagnosis most encountered on admission. Vaginal delivery was dominant with 60.9% of the cases but about seven out of ten of those childbirths needed an episiotomy (67.2%). One childbirth out of ten (10.5%) got complicated by a perineal tear. Stillbirth rate was 8.2% and newborns had on average a good APGAR score at birth. Thirty-five (35) newborns i.e., 32.7% had a weight below 2500 g. Among the reasons for transfers to the neonatology division the leading ones are low birth weight (LBW), immediate neonatal distress and existence of pathologies during pregnancy.

Conclusion: Among the adolescents in Parakou, pregnancy is a common reality and seems to be characterized by high risk.

Keywords: Pregnancy; Childbirth/delivery; Adolescent; Risk factors; Reproductive health

Introduction

Early pregnancy is a current issue of great concern. Whereas the magnitude of the problem is less significant in developed countries, it is still a public health issue in developing countries. Adolescent pregnancy is exposed to risks of maternal and fetal morbidity and mortality. Actually, early pregnancy has adverse effects on girls' health, education and rights and threatens the life of the children they give birth to. In Benin, adolescents contribute by 21% to total fertility; this means that one out of five pregnancies is carried by an adolescent [1]. However few studies had been dedicated to the issue in Benin. This study aims to assess the management of pregnancy and childbirth in adolescents at CHDU- Parakou.

Patients and Methods

The study was conducted in the gynecology and obstetrics unit of the Regional University Teaching Hospital of Parakou. It was a cross-sectional and prospective study with descriptive purpose covering a period of 6 months from March 1 to August 31, 2014. This research

work involved nulliparous patients under 20 years of age, carrying a single pregnancy and who accepted to participate in the study.

The study did not involve women with history of maternity, pregnancy and multiple childbirth and the women who refused to participate in the study.

Moreover, the study excluded nulliparous women under 20 years of age whose pregnancy did not result in childbirth during the study period, and nulliparous women under 20 years of age who gave birth before admission to the unit.

The selection of nulliparous patients was guided by the intention of eliminating the effects of obstetrical history.

Based on SCHWARTZ formula and childbirth prevalence in adolescents found in a previous study conducted by Eyendja [2] at "Maternité Lagune" of Cotonou in 2000, sample minimum size was estimated at 102 patients. We had made a continuous and comprehensive sampling of pregnant adolescents.

The data gathered were entered using a data capture mask developed in version 7.1.1.14 of Epi-INFO software dated July 2, 2013. Their descriptive statistical analysis consisted in calculating the different frequencies and averages of study variables.

Results

At the end of the period of study, 110 pregnant adolescents had given birth to a child for the first time in a total of 978 deliveries i.e., a 12.7% frequency of childbirth among adolescents.

Pregnancy characteristics	Primiparous adolescents	
	n=110	%=100.0
Desire of pregnancy		
Yes	56	50.9
No	54	49.1
Number of ANC during pregnancy		
None	16	14.6
<4	50	45.4
≥ 4	44	40.0
Gestational age on first ANC		
<15 WA	28	29.8
15-28 WA	64	68.1
>28 WA	2	2.1
Health worker who carried out ANCs		
Gynecologist-Obstetrician/Physician	0	0.0
Midwife	80	85.1
Nurse	6	6.4
Aide-Soignante	8	8.5
Place of ANCs		
Public health center	82	87.2
Private health center	12	12.8
n=number, %=frequency		

Table 1: Distribution of pregnant adolescents in 2014 at CHUD-B according to pregnancy characteristics.

The mean age of those adolescents was 17.7 ± 1.4 years. They were aged 14 years and 15 years respectively in 3.6% and 7.3% of the cases. The adolescents aged 16 years, 17 years and 18 years were respectively 3.6%, 19.1% and 32.2% of the cases. Most of them (73 out 110) i.e., 66.4% were aged 18 and 19 years. They were secondary school students in 33.6%, housewives and without occupation in 26.4% of the cases, apprentices, craft workers/resellers and university students in respectively 23.6%, 15.5% and 0.9% of the cases. They were married in 57.3% of the cases, single in 40.9% and lived as cohabitantes in 20% of the cases. The adolescents were uneducated in 32.7% of the cases, 20% had primary school level, 46.4% and 0.9% had respectively secondary school and higher education level. Socioeconomic level was low in 80 patients (72.7%), average in 28 (25.5%) and high in 2 (1.8). Eleven (11) female patients (10%) attended night clubs and 47 of them (42.7%) got addicted to alcohol. Pregnancy was wished and desired in 50.9% of the cases (Table 1).

Hospitalization for pregnancy	Adolescent mothers	
	n	%
Hospitalization during pregnancy		
Yes	25	22.7
No	85	77.3
Number of hospitalization during pregnancy		
One	8	32
Many	17	68
Hospitalization reasons		
Malaria	17	54.8
Urinary tract infection	1	3.2
PDT	4	12.9
Vaso-occlusive crisis (VOC)	1	3.2
BP	3	9.7
Anemia	5	16.1
n=number, %=frequency		

Table 2: Distribution of pregnant adolescents in 2014 at CHUD-B/A according to hospitalization reason during pregnancy.

Diagnosis on admission	Adolescent mothers	
	n	%
Labor without anomalies	22	20.0
Premature rupture of membranes (PRM)	5	4.6
PDT	16	14.6
Dystocia	27	25.4
Fetal heart rate (FHR) abnormalities/ Fetal distress	16	14.6
Post-term or prolonged pregnancy	3	2.7
Fetal death	3	2.7
Pregnancy-related anemia	2	1.8
Gestational BP/ Preeclampsia /Eclampsia	14	12.7
Pregnancy-related hemorrhages	1	0.9
Cord/hand prolapse	1	0.9
Total	110	100.0
n=number and %=frequency		

Table 3: Distribution of adolescent primiparous mothers in 2014 at CHUD-B/A according to diagnosis on admission.

More than two out of ten adolescent patients had been hospitalized during pregnancy and most of them were admitted for malaria, anemia or premature delivery threat (PDT) (Table 2). As regards, diagnosis on

admission of adolescents, dystocia were the most common diagnosis (Table 3).

Delivery characteristics	Primiparous adolescents	
	Number (n=110)	Frequency (%)
Type of delivery		
Cesarian delivery	43	39.1
Vaginal birth	67	60.9
natural delivery	12	17.7
directed labor	10	14.9
induced delivery	45	67.2
Preterm rupture of membranes		
Yes	32	29.1
No	78	70.9
Maternal fever on admission		
Yes	14	12.7
No	96	87.3
End of pregnancy on delivery		
28 to 32 WA	7	6.4
32 to 36 WA+6 days	24	21.8
37 to 40 WA+2 days	74	67.3
Higher than 40 WA+2 days	5	4.6
Vaginal operations		
Episiotomy	45	67.2
Induced delivery and evacuation of uterine cavity	22	32.8
Complications in vaginal delivery		
Peineal tear	7	10.5
Cervical tear	1	1.5
Postpartum complications		
Delivery hemorrhage	2	1.8
Postpartum eclampsia	1	0.9
Disseminated intravascular coagulation (DIC)	2	1.8
Duration of hospitalization		
1 day	43	39.1
1 to 5 days	58	52.7
>5 days	9	8.2

Table 4: Distribution of adolescent primiparous mothers in 2014 at CHUD-B according to delivery characteristics.

The rate of vaginal delivery was higher and about seven out of ten of those childbirths had required an episiotomy. However one out ten childbirths (10.5%) got complicated by a perineal laceration or tear (Table 4). Stillbirth rate was 8.2% and newborns had on average a good APGAR score at birth (Table 5).

Adaptation of newborns at birth	Adolescent mothers	
	n=110	%=100.0
Newborn's condition at birth		
Alive	101	91,8
Stillborn	9	8.2
Average of neonates APGAR score		
First minute	7.38	±1.5
Fifth minute	8.91	±1.5
Tenth minute	9.56	±0.9
Intensive care at birth		
Yes	19	18.8
No	82	81.2
Duration of intensive care		
<5 minutes	8	42.1
5 to 10 minutes	10	52.6
>10 minutes	1	5.4
n=number, %=frequency		

Table 5: Distribution of newborns according to their condition at birth.

Thirty-five (35) newborns i.e., 32.7% had a weight below 2500g; the weight of 74 newborns was between 2500g and 4000g.

Among the reasons for referrals to neonatology, the main ones were low birth weight, immediate neonatal distress and existence of pathologies during pregnancy. About two out of ten newborns born of adolescents had died in the neonatology unit.

Discussion

Childbirth prevalence in adolescents was 12.7% in this study. That prevalence is higher than the ones found by Hamada et al. [3] (2.6%), Iloki et al. [4] (5,3%) Nayama et al. [5] (10.9%) respectively in the following university maternities: "Les Orangers" of Rabat, University Teaching Hospital of Brazzaville and "Issaka GAZOBI" of Niamey. By contrast, higher rates were reported by Traore et al. [6] (15.5%) at the regional hospital of Segou (Mali), Foumsou et al. [7] (18%) at the maternity of the National Referral General Hospital (HGRN) of N'Djamena (Chad) and Ngembi et al. [8] (30.3%) in the town of Bouar (Central African Republic). Therefore, childbirth prevalence in adolescents is very variable from a country to another.

Our relatively high rate may be due first to the fact that CHUD-B maternity is the only referral center in the Borgou-Alibori region and it attends most high risk dystocic pregnancies with the other health centers, area maternities and zonal hospitals with the phenomenon of

concentration of pathologies. On the other hand, it may also be due to early marriage which is an issue that is still prevailing in the North-Benin.

Adolescents' mean age was 17.7 years; the youngest mother was 14 years old. This result is consistent with the ones reported by Hamada et al. [3] in Morocco (17 years and 4 months), Ngembi et al. [8] in Central African Republic (17.1 years) and Foumsou et al. [7] in Chad (17.2 years).

Most of the adolescents who were the target of our study enjoyed a low socioeconomic status. This would suggest that they are looking for economic security by entering an early marriage or only in a rewarding relationship. The percentage of the ones who had declared that they desire their pregnancy was nearly identical to those who did not desire that pregnancy but in most cases the latter lacked appropriate follow-up; in general declaration of pregnancy happened in the second quarter. This is consistent with the results of most African research works [3,5-8].

In our study as in the one of Traore et al. [6] carried out in Mali, dystocia was the pathology most observed during adolescents' pregnancy. This would be compatible with our patients' young age and thus with the immaturity of their bony pelvis.

Premature delivery threat and complications of gestational blood pressure were not on top of pregnancy-related pathologies like in the research works done by Hamada et al. [3] and Foumsou et al. [7] but they are still very frequent in our series. In general, those adolescents had given birth through vaginal delivery (60.9%) and episiotomy was needed by most of them (67.2%). This result concurs with the findings of other African series [3,6]. Preterm childbirth had occurred in 28.2% of adolescent patients, including 6.4% of extreme prematurity. This rate is higher than the ones found by most studies [4-9]. This remark could be associated with the poor monitoring of pregnancy observed in the adolescents of our study.

In general, the neonates born of adolescent mothers properly adapt themselves to extra uterine life; they had an average APGAR score higher than 7 in the first, fifth and tenth minute but were referred to neonatology most often for low birth weight. This last remark could be the result of the policy of the CHUD-B maternity which consists in referring systematically to neonatology all the neonates born of pathologic pregnancy even if they seem to be healthy at birth. Stillbirth was encountered in 8.2% of the cases, low birth rate involved 32.7% of newborns and 18.5% of perinatal deaths had been registered. These

findings are clearly higher than those of other series investigated [5,8-10]. This difference could be associated with the more significant rate of premature childbirth, thus of prematurity found in our study.

Conclusion

We may therefore conclude that in Parakou, pregnancy in the adolescent is frequent and is also a high risk condition. As well, reducing complications requires efficient prenatal care and delivery conducted with the assistance of a skilled staff.

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