SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Gynecology and Obstetrics

Delivery to the Elderly Primipare at the Reference Health Center of Commune V of the District of Bamako

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DOI: 10.36347/sasjm.2023.v09i01.007 | **Received:** 01.12.2022 | **Accepted:** 08.01.2023 | **Published:** 12.01.2023

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Abstract **Original Research Article**

Introduction: Late pregnancies are a hot topic for both women and perinatal health workers because of their increasing increase. In the elderly primiparous pregnancy, pregnancy has always preoccupied birth attendants for a long time because high-risk pregnancy is the one that is associated with certain risk factors that can hinder its normal evolution. ***Objective:*** Study childbirth in the elderly primiparous at the Reference Health Center of Commune V of the District of Bamako. ***Materials and Methods:*** This was a retrospective and analytical case/control study (1 case for 2 controls), from 1January 2019 to 31 December 2021.It had covered all deliveries recorded in the ward. ***Results:*** The frequency of delivery in the elderly primiparous was 0.36%. The most educated elderly primiparous accounted for 73.3% (p=0,000; OR= 2.014; 95% CI = [0.006-0.31]). Dystocia was the most common obstetric complication (p=0.13; OR= 0.69; 95% CI = [0.42-1.12]). Caesarean delivery accounted for 77.1% in cases versus 49% in controls (p=0.000; OR= 0.28; 95% CI = [0.170.48]). Apgar's score was greater than or equal to 8 in 90.5% of cases versus 82.4% of controls. We have not recorded any maternal deaths. ***Conclusion:*** Pregnancy and childbirth in the elderly primiparous are risk situations in some cases. Childbirth in the elderly primipare requires a skill that can detect and prevent morbid situations and allow adequate care.

Keywords: Childbirth, Primiparous, Old, Commune V, Bamako.

INTRODUCTION

Late pregnancies are a hot topic for both women and perinatal health workers because of their increasing increase. However, some complications may occur during pregnancy and/or childbirth. These complications are all the more common when the pregnant is very young or old [1]. In the elderly primiparous pregnancy, pregnancy has always preoccupied birth attendants for a long time because high-risk pregnancy is the one that is associated with certain risk factors that can hinder its normal evolution. It is recognized in the literature set that advanced maternal age is a risk factor, found in the etiology of a number of gestational pathologies. The definition of older primiparous, however, remains controversial. Some publications place it at 30 years but 35 years and over has been the most frequently found in the literature [2]. In France in 2005, women who had their first child late accounted for only 18% of mothers aged 37-39 and 16% of those aged 40 and over [3, 4]. In Africa, the frequency is increasing considerably, this is explained by the increasing enrolment of the female population [5, 6]. A study carried out in 2005 at the Gabriel Touré University Hospital in Bamako revealed a frequency of 1.43% [7]. A study carried out in 2013 at the Reference Health Center of Commune V of the District of Bamako found a frequency of 0.62% [8]. In France, the average age of first pregnancy has risen further, from 24 in 1970 to 29.4 years in 2005.

A woman has a potential of about 40,000 follicles at puberty that will be released after maturation during ovulation. With age, this capital decreases and can also deteriorate. This results in two risks [9]:

- At 35 we have difficulty conceiving with a fertility rate of about 15%, which drops to 5% at age 40 [9].
- Increased risk of malformations or diseases for the child [9].

According to INSEE statistics, 17.5% of babies in 2004 had a mother aged 35 and over and 3.3% a mother over 40, whereas they were 14% in 1995 and 8% in 1980 [10]. We initiated this study to better understand the epidemiological profile of these women and to make our contribution.

MATERIALS AND METHODS

This was a retrospective and analytical case-control study (1 case for 2 controls), running from 1 January 2019 to 31 December 2021. It covered all deliveries recorded in the ward. We carried out an exhaustive sample of first-time mothers aged 35 and over who gave birth at the maternity ward of the Reference Health Centre of Commune V during the study period. The sample size was equal to the number of older primiparous as well as young primiparous primiparous persons with an age of 19 years or less who gave birth in the ward during the same period. We included in our study:

- All first-time parturient women whose age was greater than or equal to 35 years (Cases).
- All parturients who gave birth for the first time whose age was less than or equal to 19 years (Witnesses). They were selected immediately after a case was obtained.

The non-inclusion criteria concerned all parturient women who did not meet the above-mentioned criteria. They are:

- Primiparous women who have given birth outside the ward and who have been admitted for any reason.
- Primiparous admitted to the service and who were subsequently referred to another structure. Data were collected from the questionnaire, delivery register, caesarean section, obstetric record, reference/evacuation register, operative report register, newborn transfer register, perinatal death register, maternal death register and anaesthesia register. The data was entered on Microsoft Word 2013 and Excel 2013 and analyzed on SPSS version 20. The statistical test used was the Odds ratio to study associations between variables. The probability (P) was determined with an alpha risk of 0.05. OR<1 was associated with protection against the phenomenon studied; whereas an OR greater than or equal to 2 was rather synonymous with a worsening of the phenomenon studied. Ethically, informed consent and confidentiality were respected.

RESULTS

During our study period we collected 28974 deliveries including 105 deliveries in the elderly primiparous or a frequency of 0.36%. For the cases the 35-39 age group accounted for 93% and the 40 years and over age group 7% with an average age of 37 years. For the controls, the 18 and under age group and the 18-20 age group each accounted for 50% with an average age of 19 years. Cases were married in 93.3% and Controls in 82.9% (p=0.001 and OR-CI=0.094[0.02-0.39]). For singles, Cases accounted for 6.7% and Controls 17.1% (p=0.000 and OR-CI=10.65 [2.51-45.2]. In our series health workers accounted for 31.4% for Cases versus 3.3% for Controls (p=0.000 and OR-CI=2.075[0.03-0.18]) and students accounted for 14.3% for Cases versus 25.7% for Controls (p=0.023 and OR-CI=2.08[1.11-3.90] Among Cases 6.7% were out of school versus 7% For Controls (p=0.000 and OR-CI=9.02[5.23-15.54]) , 9.5% of Cases had a primary level compared to 1.4% for Controls (p=0.003 and OR-CI=0.14[0.04-5.12]), 10.5% of Cases had a secondary level compared to 23.5% for Controls (p=0.006 and OR-CI= 2.67[1.32-5.4]) and 73.3% of Cases had a higher level compared to 3.8 % for Controls (p=0.000 and OR-CI=2.014[0.006-0.31]). Cases came by themselves in 43.8% vs. 62% for Witnesses and were referred/evacuated in 56.2% vs. 38% for Witnesses.

Table I: Distribution of parturient women by pregnancy

Gestrity	**CASE**		**TESTIMONIES**		**P**	**OR-IC**
	E	%	E	%		
Primigeste	78	74,3	197	93,8	0,000	5,25[2,57- 10,68]
Paucigeste	24	22,8	13	6,2	0,000	0,22[0,10-0,46]
Multi-gesture	3	2,9	0	0		
Total	**105**	**100**	**210**	**100**		

Table II: Distribution of women in labour according to antenatal consultation (CPN)

NPC	CASE		WITNESSES		P	OR-IC
	E	%	E	%		
No Followed	2	1,9	27	12,9	0,006	7,598[1,77-32,60]
Followed	103	98,1	183	87,1		
Total	**105**	**100**	**210**	**100**		

Table III: Distribution of women in labour by NPC author

Author of CPNs	CASE		WITNESSES		P	OR-IC
	E	%	E	%		
Midwife	39	37,1	152	72,4	0,1	0,28[0,06-1,26]
Doctor	64	61	31	14,8	0,000	0,36[0,08-0,16]
Not specified	2	1,9	27	12,9		
Total	**105**	**100**	**210**	**100**		

In our series 4.8% of Cases had not had an obstetric ultrasound compared to 34.3% for Witnesses and 95.5% of Cases had an ultrasound compared to 65.7 % for Controls.

Table IV: Distribution of women in labour by term of pregnancy

Term of pregnancy			WITNESSES		P	OR-IC
	E		E	%		
Eventual	99	94,3	192	91,4	0,37	0,6[0,25-1,70]
Pre-term	6	5,7	18	8,6	0,37	1,5[0,59-4,02]
Total	**105**	**100**	**210**	**100**		

Among the cases the presentation was cephalic in 89.5% against 91% in the Controls and noncephalic in 10.5% against 9% in the Controls. The pelvis was clinically normal in 83.8% of cases versus 66.2% for controls and narrowed in 16.2% of cases versus 33.8% in controls. Cases delivered vaginally in 22.9% versus 51% for Witnesses and by caesarean section in 77.1% versus 49% for Controls. Among parturients who had given birth by way 83.3% had given birth by simple vaginal route in Cases against 88.8% in Controls and 16.7% had given birth vaginally in Cases against 11.2% in Controls.

Table V: Distribution of parturient women by type of caesarean section

Type of caesarean section	CASE		WITNESSES		P	OR-IC
	E	%	E	%		
Programmed	21	26	4	3,9	0,000	0,08[0,026-0,23]
In emergency	60	74	99	96,1	0,000	0,34[0,20-0,56]
Total	**81**	**100**	**103**	**100**		

Table VI: Distribution of parturients according to indications for emergency caesarean section

Indications for caesarean section	CASE		WITNESSES		P	OR-IC
	E	%	E	%		
Dystocia	42	70	66	66,6	0,589	1,1[0,67-1,99]
Placenta praevia	1	1,7	2	2		
Asphyxia	9	15	16	16,2	0,375	0,7[0,29-1,57]
HRP	1	1,7	2	2		
Pre-eclampsia	7	11,6	13	13,2	0,994	1,0[0,35-2,79]
Total	**60**	**100**	**99**	**100**		

In our series 78.1% of cases had given birth without episiotomy compared to 60% in Controls and 21.9% with episiotomy versus 40% in Controls.

Table VII: Distribution of women in labour by obstetric complications

Obstetric complications	CASE		TEMOINS		P	OR-IC
	E	%	E	%		
Pre-eclampsia	7	6,7	16	7,6	0,76	1,15[0,46-2,90]
Placenta praevia	1	0,9	2	0,95		
Dystocia	42	40	66	31,4	0,13	0,69[0,42-1,12]
Asphyxia	9	8,6	16	7,6	0,77	0,88[0,37-2,06]
*.RPM	3	2,9	2	0,95		
No	43	40,9	108	51,4	0,000	0,04[0,02-0,08]
Total	**105**	**100**	**210**	**100**		

*RPM= Premature rupture of membranes

In the Cases 9.5% of the neonates had an APGAR score less than 8 compared to 17.1% in the Controls and 90.5% had an APGAR score greater than or equal to 8 compared to 82.4% in the Controls. One case of stillbirth was observed in controls (0.5%). Newborns had a weight less than 2500 g in 12.1% in Cases against 16.4% in Controls, a weight between 2500g and 3999g in 83.2% in Cases against 81.3% in Controls and a weight greater than or equal to 4000g in 4.7% in Cases against 2.3% in Controls. Two twin deliveries in cases (1.9%) were observed compared to 4.3% in controls with extreme weights between 1000g-5250g.

Table VIII: Distribution by Fetal Morbidity

Fetal morbidity	CASE		TEMINUS		P	OR-IC
	E	%	E	%		
Prematurity	3	2,8	18	8,2	0,001	2,96[0,84-10,35]
Neonatal infection	9	8,4	6	2,7	0,166	0,32[0,11-0,95]
Macrosomia	4	3,7	5	2,3	0,200	0,61[0,16-2,36]
Hypotrophy	10	9,3	17	7,8	0,082	0,60[0,23-1,62]
None	81	75,8	173	79	0,001	
Total	**107**	**100**	**219**	**100**		

Table IX: Baseline Distribution of Newborns (NNAs)

Reference pattern of NNNEs			WITNESSES		P	OR-IC
	E		E	%		
Neonatal asphyxia	7	6,5	30	13,7	0,06	2,18[0,97-4,91]
HIV+ mother	2	1,9	5	2,3		
Term overrun	7	6,5	6	2,7	0,12	0,41[0,13-1,26]
Hypotrophy	10	9,3	13	5,9	0,22	0,54[0,20-1,45]
Prematurity	3	2,8	18	8,2	0,14	2,61[0,74-9,24]
Risk of infection	8	7,5	3	1,4	0,007	0,12[0,02-0,56]
Not referred	70	65,5	144	65,8	0,86	1,00[0,63-1,73]
Total	**107**	**100**	**219**	**100**		

DISCUSSION

During the study period, we collected 28974 deliveries including 105 in elderly first-time workers, a frequency of 0.36%. Erwing [13], Vermelin and Conquery [17], Mahon [19] had recovered respectively 0.20%; 0.31% and 0.32%. Ballo AB [1] in a study carried out at the Gabriel Touré Hospital and the Point G Hospital in 2005 had recovered a frequency of 1.43%. Nafil H [16] in his study at the maternity Lalla Meryem of Casablanca in 2006 had obtained a frequency of 4.02%, Sidibé D [8] in a study carried out at the Reference Health Center of Commune V in 2013 had found a frequency of 0.62%. In our series the oldest primiparous was 43 years old, Tulsane [20] in his study reported an age of 44 years and Vermelin [17] an age of 49 years. In our study, 93% of women in labour had an age between 35-39 years and 7% an age greater than or equal to 40 years. Tulsane [20] found 76.62% of older primiparous primiparous whose age was less than 40 years and 23.32% of older primiparous whose age was greater than or equal to 40 years. The average age of our cases was 37 years with extremes of 35-43 years. Ballo AB [1] had reported that 78.1% of cases had an age range between 35-36 years, Sidibé D [8] had found that 75.24% of cases had an age range between 35-37 years and 4.96% of cases whose age was over 40 years. In our series 6.7% of Cases were single versus 17.1% for Witnesses with a statistically significant difference (p<0,000; OR=10.65; 95% CI = [2.5145.2]). In 31.4% cases were health workers (p=0.000; OR=2.075; 95% CI = [0.03-0.18]). The difference was statistically significant. Ballo AB [1] reported 49.5% doctors and Sidibé D [8] 29.70% doctors. 14.3% of cases were students (p=0.023; OR=2.08; 95% CI = [1.11-3.90]).

The difference was statistically significant. In our series 73.7% of cases had a higher level of education (p=0.000; OR=2.014; 95% CI = [0.006-0.31]). The statistical difference was significant, 10.5% had secondary education (p=0.006; OR=2.67; 95% CI = [1.32-5.4]). The difference was statistically significant and 6.7% were uneducated (p=0.000; OR=9.02; 95% CI = [5.23-15.5]). The difference was statistically significant. "Older first-time workers are generally women who have a relatively high level of education." In our series, 98.1% of cases had completed antenatal consultations. Among them, 93.3% had made more than 4 antenatal consultations against 4.8% for which this number was less than 4. This regularity in prenatal consultations would be due to the fact that these pregnancies were strongly desired and, also to the state of anxiety. In our series 7.6% of cases had primary sterility treatment compared to 0% in controls. In our workforce, 83.8% of cases had a clinically normal pelvis compared to 66.2% in controls. Let (p=0.001; OR= 0.38; 95% CI = [0.210.68]). The statistical difference is not significant. Cephalic presentation accounted for 89.5% in cases versus 91% in controls (p=0.68; OR=1.18; 95% CI = [0.54-2.57]). There was no statistically significant difference. Caesarean delivery accounted for 77.1% in cases versus 49% in control controls (p=0.000; OR= 0.28; 95% CI = [0.17-0.48]). This statistical difference is not significant. Simple vaginal delivery accounted for 83.3% in cases versus 88.8% in Controls (p=0.000; OR= 3.51; 95% CI = [2.01- 6.13]). The statistically significant difference would be explained by advanced age, which is a risk factor for complications and which often leads the practitioner to resort to caesarean section, especially in cases of combination of other factors (subfertility treatment, fibromatous uterus, pre-eclampsia, history of myomectomy). The anxiety of the pregnant certainly plays a significant role. In our study series we recorded 21.9% episiotomy in cases versus 40% in controls (p=0.002; OR= 2.40; 95% CI = [1.39- 4.07]). This difference is statistically significant. In our study 59.1% of cases had complications during pregnancy. Placenta previa accounted for 0.9% of complications in cases. Tulsan [20] won 2.6% and MAHON [19] 3.8%. Toxemia of pregnancy accounted for 6.7% of complications in cases versus 7.6% in controls (p=0.76; OR= 1.15; 95% CI = [0.46-2.90]) the statistical difference is not significant. Mahon [19] won 7.63%. Tulsane [20] reported 11.68% and Vermelin [17] 9.01%. Premature rupture of membranes accounted for 2.9% of complications in cases. Dystocia accounted for 40% of complications in cases versus 31.4% in controls (p=0.13; OR= 0.69; 95% CI = [0.42-1.12]). The statistical difference is not significant. The rate of fetal asphyxia was 8.6% for cases versus 7.6% for controls (p=0.77; OR= 0.88; 95% CI = [0.37-2.06]). The statistical difference is not significant. Among the cases who gave birth vaginally, our 24 patients who gave birth vaginally, 83.33% had a eutocic delivery (p=0.16; OR= 2.78; 95% CI = [1.64-4.74]) and 16.66% had a dystocia delivery. Among the caesarized cases, 26% had received a planned caesarean section (prophylactic caesarean section) and 74% had an emergency caesarean section. If Vermelin [17] had reported 3.3% of maternal deaths in this work, Mahon & Fauger [19] had reported only 0.94%. Like Tulsane [20] we have not recorded any cases of maternal deaths. We referred 33.3% of newborns to paediatrics in cases against 31.4% in controls. The causes of neonatal referrals were neonatal asphyxia with 6.7% in cases versus 14.3% in controls (p=0.06; OR= 2.18; 95% CI = [0.97-4.91]). The difference was statistically significant. Among the newborns of the Cases 84.8% had a weight between 2500 and 3999 grams with an average weight of 3249 grams. Spellacy [13] had found 3344 grams and Tulsane [19] 3150 grams. In our series 12.1% of newborns in cases had a weight of less than 2500 grams. Friede [14] finds that "*the risk of having a child weighing less than 2500 grams increases with age."* He then points out that "*this proportion, which is 4.2% between 25 and 29 years old, increases significantly between 40 and 49 years old to reach 6.5%"*. While Tulsane [20] found that 76.38% of her newborns had an APGAR score of 10 upon expulsion and that two deaths were recorded despite resuscitation, in our study, 95 newborns, or 90.5%, had an APGAR score greater than or equal to 8 (p=0.09; OR= 0.52; 95% CI = [0.25-1.11]). We recorded no neonatal deaths in cases. In our series, 9.5% of newborns in cases had a morbid Apgar score (less than 8) compared to 17.1% in controls (p=0.09; OR= 1.90; 95% CI = [0.90-4.00]). Youmbi [15] in his study reported that 20.12% of newborns of elderly primiparous had an Apgar score less than 8 compared to 18.13% in Controls. We did not record a stillbirth in the Cases but one death or 0.5% in the Controls. M. Lacomme [12] had reported 13% of newborn deaths in elderly primiparous people, 13% for Vermelin and Conquery [17], 18% for Mahon [19] and 9% for Tulsane [20].

CONCLUSION

Pregnancy and childbirth in the elderly primiparous are risk situations in some cases and this risk is essentially foetal. Childbirth in the elderly primipare requires a skill that can detect and prevent morbid situations and allow adequate care.

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