

# End-of-Pregnancy Monitoring at CHUMEFJE through the Functional Investigation Centre (FIC) in 2022

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## Abstract

**Introduction:** The end of pregnancy is a high-risk period for both mother and foetus. Rigorous monitoring can prevent complications before delivery.

**Materials and Method:** We conducted a descriptive cross-sectional observational study. It took place in the delivery room of the Teacher hospital Mother and Child of Jeanne Ebori Fondation from the 01 October 2020 to 01 October 2021. All patients followed at the Functional Investigation Centre (FIC) of the CHUMEFJE and who gave birth in that same hospital were included. Data were collected on the basis of pregnancy diaries, the fic register and delivery room registers. They were analysed using SPSS Statistical Software. **Results:** During the period of our study, 4086 parturients arrived in the delivery room. Of these, 150 were followed up at the FIC, giving a prevalence of 3.7%. The majority of parturients (48%) had only one prenatal contact. 6 (4%) patients underwent pelvic scans, and 4 (2.6%) presented with a narrowed pelvis. A vaginal delivery was performed in 80% of cases, and of the caesarean sections, 9 (30%) could be scheduled. The maternal prognosis was marred by one post-partum complication of hypertension, and newborns with poor adaptation to life outside the womb accounted for 3.3% of cases. **Conclusion:** The Functional Investigation Centre makes it possible to detect anomalies at the end of pregnancy with a view to better planning of delivery.

## Keywords

Follow-Up, End of Pregnancy, Scheduled Caesarean Section, Prognosis

## 1. Introduction

Recent evidence suggests that the focused antenatal care model, which was de-

veloped in the 1990s, is likely to be associated with higher perinatal mortality than models that include at least eight antenatal care visits between the pregnant woman or adolescent and the provider [1].

In view of the data showing an increase in perinatal mortality when a woman receives only four antenatal visits and that an increase in the number of antenatal contacts, regardless of country, is associated with an improvement in maternal satisfaction, the WHO recommends a minimum of eight contacts: one in the first trimester, two in the second trimester and five in the third trimester [2].

The end of pregnancy is a period at risk of complications. Well-organised end-of-pregnancy consultations and childbirth are a guarantee of success and prevention of maternal and foetal complications. The final antenatal check-up is the last opportunity to detect any risk factors and take the necessary corrective measures to ensure a safe delivery [3].

In Gabon, despite the new WHO recommendations, the 8 contacts are not always respected. The last contact is often around 36 weeks, the pregnant woman is then asked to only come to a health facility as soon as contractions or signs of danger appear. Thus, in the absence of end-of-pregnancy monitoring, it may be prolonged, exceeded or lead to other complications.

So the FIC is a place where these patients can be monitored at the end of pregnancy, using paraclinical tests to detect complications. We are conducting this study to present this activity.

## 2. Materials and Methods

We conducted a descriptive cross-sectional observational study from 01 October 2020 to 01 October 2021 in the outpatient departments and delivery room of CHUMEFJE. All patients followed at the FIC and who delivered at the CHUMEFJE were included. We did not include patients attended at the FIC who gave birth at another facility. The Functional Investigation Centre received patients who had had 5 outpatient contacts. At 36 weeks' gestation, the gynaecologist carried out a prognosis examination. If the prognosis for delivery was favourable, patients were referred to the FIC for further end-of-pregnancy contacts at 38, 40 and 41 weeks' gestation. These consultations were accompanied by additional examinations: obstetric ultrasound, fetal heart rate recording, pelvis scan. At the end of the 41SA, if the patient had not given birth, she was admitted to hospital for induction of labour. If the prognosis was unfavourable, a caesarean section was scheduled. Data were collected from pregnancy records, delivery registers and partograms. The variables used were clinical and paraclinical characteristics, delivery-related variables and maternal-fetal prognosis. They were analysed using SPSS statistical software which used calculation of average, proportion and standard derivation

## 3. Results

During the period of our study, 4086 parturients arrived in the delivery room. Of

these, 150 were followed up at the FIC, giving a prevalence of 3.7%.

Nearly half of the patients (48%) made one contact and gave birth afterwards, while patients who made the required 3 contacts accounted for 10.7%. End-of-pregnancy ultrasound scans were performed in 14% of patients and pelvic scans in 6%, leading to the diagnosis of a narrowed pelvis in 4 (2.6%) of patients. The mean term of delivery was  $39.6 \pm 1.1$  with extremes (38 - 41). Induction of labour at 41 weeks' gestation was achieved in 9.3% of parturients (**Table 1**). The prognosis for delivery on admission to the FIC was favourable for 129 (86%). During consultations at the FIC, 9 patients presented a complication and their delivery resulted in a scheduled or emergency caesarean section. We therefore recorded 120 (80%) vaginal deliveries and 30 (20%) caesarean deliveries. Caesarean section was scheduled for 9 (30%) of patients and emergency for 21 (70%) of patients (**Table 2**).

The maternal prognosis in the immediate postnatal period was complicated by arterial hypertension in (1) 0.7% of patients. There were no maternal deaths during the study period. In newborns, the Apgar score of less than 7 was 3.3 in cases and controls (**Table 3**).

**Table 1.** Distribution of parturients according to activities at the FIC.

Activities	N = 150	%
<b>Number of contacts</b>		
1	72	48
2	62	41.3
3	16	10.7
<b>Ultrasound</b>		
Yes	21	14
No	129	86
<b>Pelviscanner</b>		
Yes	6	4
No	144	96
<b>Results of the pelviscanner</b>		
Normal basin	145	96.7
Boundary basin	1	0.7
Shrunken basin	4	2.6
<b>Term of delivery (Average term: 39SA)</b>		
38	28	19
39	42	28
40	50	33
41	30	20
<b>Induction of labor</b>		
Yes	14	9.3
no	136	90.7

**Table 2.** Prognosis and route of delivery.

Items	N = 150	%
<b>Prognosis on entry</b>		
Favourable	129	86
Reserved	9	6
Unfavourable	12	8
<b>Delivery route</b>		
vaginal delivery	120	80
Caesarean section	30	20
<b>Type of caesarean section</b>		
Emergency	21	70
Scheduled	9	30

**Table 3.** Maternal and foetal prognosis.

Prognosis	N	%
<b>Maternal</b>		
Favourable	149	99.3
Complication	1	0.7
Deaths	0	0
<b>Foetal</b>		
APGAR < 7	5	3.3
APGAR > 7	145	96.7
Neonatal death	0	0

## 4. Discussion

The limitations of this study were, the small number of pregnancy women, the retrospective collection of data which gives a weak level of proof, the lack of analysis of associated factor with the monitoring at FIC.

The prevalence of end-of-pregnancy monitoring at the functional exploration centre at CHUMEFJE was 3.7%. This low rate differs from that of Bil N *et al.* in a study in Paris which found 9% of end of pregnancy monitoring [4]. This could be explained by the embryonic nature of our activity, which is not yet widespread in all facilities and for which providers had not fully signed up. As this study was preliminary for this pilot activity, it is possible that some pregnant women were not included in this circuit.

Combined with the consultation at the functional exploration centre, where 48% of pregnant women had received at least 1 consultation, the maximum number of contacts at the FIC is 8. This is in line with the objectives of the WHO [2] in its latest prenatal recommendation, which recommends a maximum of 8 contacts in order to identify pregnancy-related risks in good time, so that the pregnancy is a positive experience. The French National Authority for Health [5] re-

commends 8 contacts in order to improve and identify situations at risk of maternal and foetal complications.

In our study, 21 (14%) pregnant women underwent end-of-pregnancy ultrasound. This can be explained by the fact that the end-of-pregnancy ultrasound was performed when the pregnancy reached the term of 40 SA in order to assess foetal well-being and check for complications.

The availability of the ultrasound scanner in the delivery room where the FIC is located is a benefit, as it is available 24 hours a day, with obstetricians on call at the hospital.

For Baldé IS *et al.* [3], ultrasound was only performed in 41.4% of cases, the main reason cited being financial barriers.

Pelvic scans were performed in 6 (4%) of cases. The request for this examination mainly concerned only those with a history of caesarean section in pauciparous women. Performing this examination at the end of pregnancy could limit or curb emergency caesarean sections performed in the presence of a narrowed pelvis. The practice of requesting a pelvic scan is an original feature of our study. In addition, the pelviscanner is an examination that supports clinical pelvimetry, which is subject to subjectivity. Pauciparous women with a history of caesarean section for dynamic dystocia should be targeted for this examination, which would help to guide the decision on the delivery route.

The mean term was 39 SA. Sima, O. *et al.* [6] found a gestational age of  $38.33 \pm 2.8$  weeks of amenorrhoea (SA) with extremes from 36 to 42SA. This differs from the term found in Tunisia by Chekib Zedini *et al.* [7] whose median gestational age was 37 SA, with extremes ranging from 28 SA to 42 SA + 2 days. Our sample consisted only of full-term pregnancies followed up from 38 weeks' gestation.

The mode of onset of labour was spontaneous in 136 (90.7%) patients at the FIC compared with 14 (9.3%) with induced labour. Labour was spontaneous in 77.1% of cases in the study by Ngom *et al.* on postpartum haemorrhage in Dakar [8] compared with 9.8% of induced labour. Our figures can be explained by the fact that regular visits to the FIC require physical effort on the part of pregnant women, which facilitates the descent of the child by walking and therefore spontaneous labour, and that according to our usual practice, when the pregnancy reaches the gestational age of 41 SA, labour should be induced to prevent the pregnancy going beyond term. These results are in line with the WHO recommendation to induce labour at the gestational age of 41 weeks [2].

The vaginal route was the predominant route of delivery in 120 (80%) of our patients. This result is similar to that of Bang *et al.* [9] and Minkobame *et al.* [10], who found that the vaginal route was predominant in 95% and 87.94% of cases respectively.

In our study, caesarean section represented 20% of patients. It was scheduled for 21 (70%) and emergency for 9 (30%). This result is similar to that of Sima. O *et al.* who found scheduled caesarean sections in 108 parturients (63.90%) [6]. In the event of complications such as fetal macrosomia or a narrowed pelvis, a cae-

sarean section is immediately scheduled to reduce maternal morbidity and mortality.

The post-natal period was complicated by arterial hypertension in 1 patient followed at the FIC. This can be explained by the fact that patients were screened before arriving at the FIC.

In our case, the Apgar score at the 5<sup>th</sup> minute was mostly above 7, *i.e.* 145 (96.7%) of cases. This result shows the importance of good monitoring of the mother-child pair and rigorous selection of the delivery route; this makes it possible to minimise perinatal foetal suffering. Cissé CT *et al.* in Dakar [11] found a score of less than 80.6%. This result can be explained in the case of controls, because when they arrive with complications, the on-call team, made up of gynaecologists, is quick to make a decision without keeping the patient waiting for too long.

## 5. Conclusion

The Functional Investigation Centre is a unit for monitoring the end of pregnancy. Its presence in the CHUMEFJE delivery room makes it possible to avoid complications at the end of pregnancy, to make up for errors that went unnoticed during monitoring and to reduce maternal and child morbidity in the immediate post-partum period.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- [1] Vogel, J.P., Habib, N.A., Souza, J.P., *et al.* (2013) Antenatal Care Packages with Reduced Visits and Perinatal Mortality: A Secondary Analysis of the WHO Antenatal Care Trial. *Reproductive Health*, **10**, Article Number: 19. <https://doi.org/10.1186/1742-4755-10-19>
- [2] OMS (2016) Recommandations de l'OMS concernant les soins prénatals pour que la grossesse soit une expérience positive. Organisation Mondiale de la Santé, Genève. <https://www.hsph.harvard.edu/wp-content/uploads/sites/2413/2016/11/WHO-RHR-16.12-fre.pdf>
- [3] Baldé, I.S., Diallo, F.B., Diallo, M.H., *et al.* (2016) Évaluation de la qualité de la dernière consultation prénatale dans une maternité périphérique à Conakry, Guinée. *Revue de médecine périnatale*, **8**, 39-45. <https://doi.org/10.1007/s12611-016-0354-z>
- [4] Bil, N., Eggermann, V., Roueli, A., *et al.* (2015) Étude de la faisabilité et de la valorisation de l'échographie focalisée dans un cadre d'explorations fonctionnelles extra-hospitalières pour des grossesses à risque. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, **45**, 43-53. <https://doi.org/10.1016/j.jgyn.2015.02.004>
- [5] Haute Autorité de le Santé (HAS) (2007) Suivi et orientation des femmes enceintes en fonction des situations à risque identifiées-recommandation pour la pratique clinique-mise à jour. <http://www.cfef.org/archives/bricabrac/suivigrossesse.pdf>
- [6] Sima Ole, B., Bang Ntamack, J., Obame, R., *et al.* (2017) Utérus cicatriciel: Aspects

- épidémiologiques et mode d'accouchement à la maternité du CHU d'Owendo (Gabon). *Bull Med Owendo*, **15**, 45-51.
- [7] Zedini, R., Bannour, R., Bannour, I., *et al.* (2020) L'accouchement des grossesses gémellaires et pronostic materno-foetal dans un centre universitaire tunisien de niveau 3: Etude rétrospective à propos 399 cas. *Pan African Medical Journal*, **36**, 237. <https://doi.org/10.11604/pamj.2020.36.237.19179>
- [8] Ngom, P.M., Ndiaye-Gueye, M.D., El Hadi, W., *et al.* (2014) Les hémorragies du post-partum immédiat à l'Hôpital Principal de Dakar: Aspects épidémiologiques, biologiques, pronostiques et thérapeutiques. *Journal de la SAGO*, **15**, 6-11.
- [9] Bang Ntamack, J.A., Mayi Tsonga, S., Sima Ole, B., *et al.* (2013) Besoins obstétricaux non couverts: Cas de la césarienne au Centre Hospitalier Universitaire de Libreville. *Rev Chir Afr Centr*, **1**, 25-28.
- [10] Minkobame, U., Assoumou Obiang, P., Sima Ole, B., *et al.* (2018) Césienne en urgence au CHU de Libreville: Indications et délai selon la classification de Robson. *Guinean OB Gy Journal*, **13**, 19-25.
- [11] Cissé, C.-T., Ngom, P.-M., Guissé, A., *et al.* (2004) Thinking about Evolution Caesarean Section Rate at University Teaching Hospital of Dakar between 1992 and 2001. *Gynécologie Obstétrique & Fertilité*, **32**, 201-217. <https://doi.org/10.1016/j.gyobfe.2003.12.013>