

Research Article

Fetal Death at The Maternity Ward of The Abomey-Calavi Hospital and University Center (HUC): About 73 Cases

Akodjènou J*¹, Aguemon TC¹, Ahounou E¹, Fandohan Joyce¹, Biaou COA², Zoumenou E¹¹Faculty of Health Sciences (FHS), Cotonou - Benin²Public Health Regional Institute, Ouidah - Benin**Article History**

Received: 18.02.2020

Accepted: 20.03.2020

Published: 25.03.2020

Journal homepage:<https://www.easpublisher.com/easjms>**Quick Response Code**

Abstract: Introduction: Fetal Death (FD) is a relatively common accident in developing countries. It is dramatic for women, health workers and society. This study aimed to determine the profile of pregnant women with fetal death and identify the etiological factors.

Patients and Methods: This was a retrospective descriptive study conducted over six months (January 1st to June 30th, 2016). Included were parturients admitted to the maternity hospital where the diagnosis of fetal death was made. The parameters were: age, marital status, gestation, parity, state of the newborn and factors influencing fetal death. The data were entered and analyzed with the Epi info 7 software. **Result:** A total of 73 (4.78%) fetal deaths were recorded among the 1,525 deliveries performed during the study period. The average age concerned 28.12 ± 6.66 years and 87.67% of the cases ($n = 64$) were women, of whom 54.69% ($n = 35$) were from private health centers. Only 2 women (2.74%) did the refocused Prenatal Consultation (PNC). Eight (08) women (10.96%) were admitted with BDCF positive. The average gestation was 3.76 ± 2.14 and 50.68% of the mothers had a gestation between 1 and 4. As for the parity, the average was 2.56 ± 2.08 and 69.86% of the mothers had a parity between 0 and 4. The newborns were stillborn fresh in 42.46% of the cases. Among the main etiological factors of death are mainly vasculo-renal syndromes and their complications (38.35%). Acute fetal distress (28.65%), placenta previa (7.35%) and uterine rupture (25.65%) were the other etiologies found. **Conclusion:** Fetal death is relatively frequent at the zonal HUC of Abomey-Calavi. The etiological factors are various. Improving the quality of ANC's would significantly decrease the rate of fetal Death (FD).

Keywords: Fetal death, profile etiological factors, Abomey Hospital and University Center.

Copyright @ 2020: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

INTRODUCTION

Since the world summits of women and children, the health of the mother-child couple has been entered in various international agendas (Rosenfield, A., & Min, C. J. 2009 ; & ONU. 2011). Fetal death is defined as any fetal death before labor, occurring after the limit of fetal viability as set by the WHO, namely 22 weeks of amenorrhea (WA) or a weight of birth of more than 500 grams (Lansac, J. *et al.*, 2011). It is one of the major complications of pregnancy that one can witness as a practitioner. Fetal death is a very traumatic event and provides many questions for the couple, for the obstetrician but also for the anesthesiologist - resuscitator.

Its prevalence varies across the world from one region to another: with 2% worldwide and 0.5% in high-income countries (Quibel, T. *et al.*, 2014). Fetal death has become a hot topic due to the drop of the prenatal mortality rate in developed countries since past 30 years. In France, the frequency of fetal mortality was 5.3% in 1991 at maternity A of Bordeaux (Mercier, I.

1991) and 7.8% in 1987 in Lille (Monnier, J. C. *et al.*, 1983). In Africa, rates vary from country to country. Kalenga, M. K. (1992) reports a frequency of 30.80% in the DRC; Baeta, S. (1991) in Togo obtained 19.51%; finally Koffi, A. (1998) obtained a frequency of 25.50% in RCI.

These high rates of fetal death in non-developed countries show the full extent of the progress that remains to be made in the management of risky pregnancies.

Fetal death is a relatively common accident in our maternity hospitals. It is dramatic for women, health workers and society. Unfortunately in our country, data are not available to assess the magnitude of the problem, reason why this study was initiated to help improve the well-being of the mother-child couple by taking in charge the preventive fetal death at the maternity and hospital center of Abomey-Calavi area. For this main concern, that is the prevention of fetal death, we release the following objective: determining

the profile of pregnant women presenting with fetal death and identifying the etiological factors.

PATIENTS AND METHOD

The study takes place in the obstetrics and gynecology department of the Abomey-Calavi Zonal Hospital and University Center. The service includes: A delivery room with 3 delivery tables, a diaper suite, a unit for the EVP (Expanded Vaccination Program), a FP unit (Family Planning) and a unit for prenatal consultations. It is chaired by five gynecological - obstetricians doctors, 12 midwives and 8 nurses. The center also has two operating wards, an Anesthetist - Resuscitator doctor and 8 nurse anesthetists. Unfortunately not emergency medicine kits allowing rapid management of all obstetric emergencies. It was a retrospective descriptive study. It focused on parturients admitted to the maternity hospital from January 1st June 30th, 2016 in whom the diagnosis of fetal death was made. Data collection was done using survey cards and completed from obstetric records and the birth registry. These two documents made it possible to collect the necessary information on women from their admission

to the service until the birth and their exit. The data collected included age, marital status, gestation, parity, state of the newborn and factors influencing fetal death. The data were entered and analyzed with the Epi 7 software. The usual descriptive statistics (means and proportions) were presented according to the nature of the different variables studied.

RESULTS

Frequency of fetal death

The study recorded 73 cases of fetal death at the Zonal Hospital and University Center of Abomey-Calavi for a total of 1,525 deliveries with a frequency of: 4.78%.

Age, marital status and admission mode of mothers

The average age of newborns's mothers was 28.12 years \pm 6.66 years, with extremes from 16 years to 45 years. Most of them were living common-law (71.23%). Sixty-four women (87.67%) had been referred, including 35 (54.67%) from private health centers (Table 1).

Table I: Distribution of Mothers By Age

	Effective	Percentage
Mothers' age (year)		
< 20	12	16.44
20 – 29	32	43.83
30 – 40	23	31.50
> 40	06	8.22
Marital status		
Free union	52	71.23
Married	19	26.03
Single	2	2.74
Admission mode		
Direct	9	12.33
Referred	64	87.67

Gyneco-obstetrical history and monitoring of pregnancy

Only 2 women (2.74%) did the refocused prenatal consultation (PNC). Eight 8 women (10.96%) were admitted with BDCF positive.

Average gestation was 3.76 \pm (SD=2.14) and more than 37 women (50.68%) had gestation between 1

- 4. The average parity was 2.56 \pm (SD=2.08) and 51 women (69.86%) had a parity between 0 - 4. In the majority of cases the newborns were fresh stillborn 42.46% (31/73) and in the other cases they were stillborn macerated 1st degree: 21.91% (16/73); 2nd degree: 16.44% (12/73) or even 3rd degree: 19.17% (14/73). Table II represents the distribution according to gestity and parity.

Table II: Breakdown by gestation and parity

	Effective	Percentage (%)
Gestation		
1	5	6.85
2 - 3	11	15.06
4 - 5	21	28.77
> 5	36	49.31
Parity		
0	6	8.22
1	4	5.48
2 – 3	31	42.47
4 - 5	10	13.70
> 5	22	30.13

Etiological factors

Among the main etiological factors, vasculo-renal syndromes and their complications constitute the main causes of fetal death (38.35%). Acute fetal distress (28.65%), uterine rupture (25.65%) and placenta previa (7.35%) were the other etiologies.

DISCUSSION

Frequency of Fetal Death

In our series, the frequency of fetal death was 4.78%. Tchaou and al. reported a frequency of 9.2% in Parakou, a city in northern Benin (Tchaou, B. A. *et al.*, 2015). N'Diaye, M. (2003) found a frequency of 11.73%; Koffi and al (Libo Line-C-Soler. 1996) in Côte d'Ivoire 25.05%. Mercier, I. (1991) in Bordeaux finds 5.3%;

Libo Line-C-Soler. (1996) in Nice 9.6% against 7.8% for MOUNZER, I. (1989) in Lille. Overall, it has been established that fetal death is an event with widely varying prevalences across the world, with a global prevalence of 2% and 0.5% in high-income countries, but the developing countries is the most affected (Quibel, T. *et al.*, 2014).

Maternal Age

The most represented age group was those aged 20-40 with 75.33% of our sample. The average age was 28.12 +/- 6.66, with extremes from 16 to 45 years of age. The epidemiological survey of Goffinet, F. *et al.*, (1996) indicates a rate of 5.2% for those under 20 years of age and a rate of 87.5% between 20 to 37 years. This finding agrees with the results of other authors who have shown the existence of an increase in fetal deaths and prenatal mortality in late pregnancies, particularly in the work of Lansac, J. *et al.*, (2011) and Roman, H. (2004). Several reasons such as high blood pressure, diabetes mellitus, obesity, the risk of placenta previa and fetal malformations explain the predisposition of the elderly woman to fetal death.

Mode of Admission

In our study 87.67% of parturients were referred, 12.33% came by themselves. N'Diaye, M. (2003) found 71.7% of the women who came by themselves. The reason for this large difference is mainly due to the emergence of private health centers around the hospital which refer, in the complicated and late phase, the obstetric emergencies cases to hospital.

Marital status

Most of the women who had given birth lived in a common-law relationship (71.23%), singles represented 2.74% and married women 26.03%. These results are contrary to those found in the studies of N'diaye, B. (1995) 78.4%; N'Diaye, M. (2003) 88.7% and Libo Line-C-Soler. (1996) 68.9% in whom the parturients were married. The marital status is variously appreciated by the authors.

Gestation and Parity

Relationship between parity, gestation, and fetal death: In relation to the rank of pregnancy (gestation) and the number of deliveries (parity) presented in Table III, it is clearly found out that the frequency of fetal death therefore increased with gestity and parity. Multiparas and multigests most often also have an advanced age and are exposed to certain pathologies incriminated in the causes of fetal death, such as vasculo-renal syndromes, placenta previa, HRP, hypertension, diabetes mellitus, obesity (Oscar, O. 1998; Lamine, C.K. 2009; & Kangulu, I. B. *et al.*, 2014). In fact, other authors have found similar results; Mercier, I. (1991) found 34.5%; and N'Diaye, M. (2003) found 52.8% paucigestes.

Etiological Factors

Pre-eclampsia serious condition occurring especially at the end of pregnancy, complicates most often the picture of pregnancy toxemia and can end up with the death of the fetus. In our study, as in many other studies in Africa, vasculo-renal syndromes (Pre-eclampsia and complications) are responsible for fetal death. However, the study by Moutongo, F. (2000) and that by Koffi, A. *et al.*, (1998) found 6.67% and 5.9% respectively of fetal death linked to vasculo-renal syndromes. This low rate is explained by the prevention methods implemented to minimize the occurrence of vasculo-renal syndromes.

CONCLUSION

Fetal death is relatively frequent at the zonal Hospital and University Centres (HUC) of Abomey-Calavi with a prevalence of 4.78%. It's always a drama for parents and a puzzle for the Obstetrician-Resuscitator duo. It can be avoided through a preventive attitude towards risk factors. By improving the quality of ANC's, the rate of Fetal Death would significantly decrease.

REFERENCES

1. Baeta, S., Akpadja, K., Hodonou, A. S., & Idder-Abdoulaye, Z. (1991). Etiologie des morts foetales in-utéro: à propos de 308 cas observés de janvier 1984 à juin 1985. *Publications médicales africaines*, (118), 14-22.
2. Goffinet, F., Combiér, E., Bucourt, M., De Caunes, F., & Papiernik, E. (1996). Epidémiologie des morts foetales avant le travail dans l'enquête périnatale de la Seine-Saint-Denis. *Journal de gynécologie obstétrique et biologie de la reproduction*, 25(2), 153-159.
3. Kalenga, M. K., Mutach, K., Nsungula, K., Kabyla, I., & Odimba, F. K. (1992). Considérations épidémiologiques sur les accouchements des mort-nés à la maternité Gécamines Sendwe de

- Lubumbashi (Zaire). *Revue française de gynécologie et d'obstétrique*, 87(1), 26-29.
4. Kangulu, I. B., Uamba, E. K. N., Nzaji, M. K., & Kayamba, P. K. M. (2014). Facteurs de risque de faible poids de naissance en milieu semi-rural de Kamina, République Démocratique du Congo. *The Pan African Medical Journal*, 17.
 5. Koffi, A., N'guessa, K., Diallo, I., Gondo, D., Bokassa, E., Kodjo, R., ... & Bohoussou, K. (1998). Mortinatalité: facteur de risque à propos de 780 cas colligés en deux ans à la maternité d'Abobo sud Abidjan. *Abstracts du 5^{ème} congrès de la SAGO, Dakar décembre 1998*.
 6. Lamine, C.K. (2009). Grossesse et accouchement chez la grande multipare a l'hopital fd de kayes, Thèse Méd, Université de Bamako.110p.
 7. Lansac, J., Descamps, P., & Oury, J. (2011). *Pratique de l'accouchement*, 5e éd. Paris: Masson, 593p.
 8. Lansac, J., Descamps, P., & Oury, J. F. (2011). *Pratique de l'accouchement*. Elsevier Health Sciences.
 9. Libo Line-C-Soler. (1996). Mort fœtale in utero à propos de 152 cas à l'université. De Nice. Sophia-Antipolis pour une période de février 1988 au 31 Décembre 1996. Thèse de médecine Nice.
 10. Mercier, I. (1991). La mort fœtale in utero. Bilan de dix années à la maternité A de Bordereaux thèse de médecine n°144
 11. Monnier, J. C., Patey-Savatier, P., Dognin, C., Lanciaux, B., & Vinatier, D. (1983). Avenir obstétrical des femmes ayant un antécédent de mort in utero: 62 cas relevés de 1977 à 1982. *Revue française de gynécologie et d'obstétrique*, 78(12), 781-784.
 12. Mounzer, I. (1989). *La mort foetale in utero: aspects étiologiques a propos de 42 cas* (Doctoral dissertation, Lille 2).
 13. Moutongo, F. (2000). Mort fœtale in utero dans le service de gynéco-obstétrique de l'Hôpital National du Point G de 1992-19990. Thèse de médecine Bamako N° 95 PM 113
 14. N'diaye, B. (1995). Mortinatalité à la maternité de l'Hôpital Gabriel Touré Thèse de médecine Bamako N° 95 M18.
 15. N'Diaye, M. (2003). Mort in utero, aspects épidémiologiques, cliniques et radiologique à la maternité de René Cissé d'Hamdallaye thèse de médecine Bamako n°49. 80p.
 16. ONU. (2011). Objectifs du Millénaire pour le développement rapport 2009. New York.
 17. Oscar, O. (1998). Grossesse et accouchement chez la grande multipare: A propos de 242 cas colligés en 1996 à la maternité du Centre, Thèse Méd, Univesité de Ouagadougou, 52p.
 18. Quibel, T., Bultez, T., Nizard, J., Subtil, D., Huchon, C., & Rozenberg, P. (2014). Morts fœtales in utero. *Journal de gynécologie obstétrique et biologie de la reproduction*, 43(10), 883-907.
 19. Roman, H., Robillard, P. Y., Julien, C., Kauffmann, E., Laffitte, A., Gabriele, M., ... & Barau, G. (2004). Grossesse chez 382 femmes de plus de 40 ans: étude rétrospective dans la population de l'île de la Réunion. *Journal de gynécologie obstétrique et biologie de la reproduction*, 33(7), 615-622.
 20. Rosenfield, A., & Min, C. J. (2009). A history of international cooperation in maternal and child health. In *Maternal and child health* (pp. 3-17). Springer, Boston, MA.
 21. Tchaou, B. A., Hounkponou, N. F. M., Salifou, K., Zoumenou, E., & Chobli, M. (2015). Les Urgences Obstetricales A L'hopital Universitaire De Parakou Au Benin: Aspects Cliniques, Therapeutiques Et Evolutifs. *European Scientific Journal*, 11(9), 260-272.