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Pregnancy and public road accident: Frequency, socio-demographic and materno-fetal prognostics at the Prefectoral Hospital of Siguiiri, Guinea

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Abstract

Objectives: To calculate the frequency of road accidents among pregnant women, to describe the epidemiological profile and to establish the maternal and fetal prognosis at the prefectural hospital of Siguiiri.

Methodology: this was a prospective study of a descriptive type lasting six (6) months from August 1, 2019 to January 31, 2020. It concerned all pregnant women victims of road accidents admitted to Siguiiri prefectural hospital during the study period. All pregnant women who were victims of road accidents received at the hospital during the study period and who gave their consent were included. All pregnant victims of road accidents who did not give their consent were included and cases of trauma unrelated to the road accident. We conducted an exhaustive recruitment of all highway accident cases among pregnant women during the study period. The limitations or constraints of the study were the delay in the care of some pregnant women who first sought treatment from traditional healers.

Results: The frequency of road accidents among pregnant women was 52.08% (n = 25) taking into account pregnant women victims of trauma (n = 48).

The epidemiological profile was that of a woman in the age group 14-23 years and 24-33 years (44%), housewife (72%) and city dwellers (76%). The majority of pregnant women were received through a police requisition (68%) followed by themselves (24%). The predominant type of accident gear was two-wheeled (88 %) Pregnant women in the second trimester of pregnancy were the most affected (68%). The predominant bodily injuries were minor injuries (52%) followed by no injuries (simple contusion) (32%) and then serious injuries (poly trauma) (16%). The road accident had no impact on the pregnancy in (84%) followed by death in utero 12% then threat of premature delivery 4%. All pregnant women with minor injury or without injury (with a living fetus) received treatment with spasfon / salbutamol plus progesterone for 48 hours and delivery was directed to patients with death in utero. We recorded a maternal mortality rate of 12% and an in utero fetal death rate of 12%.

Conclusion: Road accidents involving a pregnant woman are frequent in the prefecture of Siguiiri, occurring in young women traveling on two-wheeled vehicles. Trauma and pregnancy management were multidisciplinary.

Keywords: Pregnancy; Road Accident; Prognosis.

1. Introduction

Pregnancy is the particular physiological state of the woman which begins after the fusion of the spermatozoon with the ovum, and ends with the expulsion or extraction of the product of conception [1]. The road accident is defined as an unfortunate or damaging event occurring on the road, a road open to traffic and belonging to the public domain [2]. Apparently minor accidents can cause significant maternal and especially fetal distress [3]. They can be extremely

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serious, sometimes leading to the death of the mother and the fetus. The prognosis is sometimes grim with serious immediate or distant obstetric complications. The maternal and fetal risk associated with trauma increases with the term of pregnancy 10 to 15% in the first trimester, 32 to 40% in the second trimester and 50 to 54% in the third trimester [3]. One million women die each year as a result of trauma [4]. In the United States, the percentage of trauma during pregnancy varies from 2.9 to 7% per year [5]. In France, these injuries seem infrequent, they represent less than 1% of pregnant women among all those injured in road accidents [6].

The objectives of this study were to calculate the frequency of road accidents in pregnant women, describe the epidemiological profile and establish the maternal and fetal prognosis at the Sigüiri prefectural hospital.

2. Methodology

This was a prospective study of a descriptive type lasting six (6) months from August 1, 2019 to January 31, 2020. It concerned all pregnant women victims of road accidents admitted to hospital. Prefectural of Sigüiri during the study period. All pregnant women who were victims of road accidents received at the hospital during the study period and who gave their consent were included. All pregnant victims of road accidents who did not give their consent were included and cases of trauma not related to the road accident. We conducted an exhaustive recruitment of all highway accident cases among pregnant women during the study period. The limitations or constraints of the study were the delay in the care of some pregnant women who first sought treatment from traditional healers. The variables studied were quantitative (frequency, age,) qualitative (socio-professional category, origin, mode of admission, type of vehicle, age of pregnancy, bodily injuries, impact of the road accident on the road. pregnancy, treatment received, maternal mortality, fetal mortality in utero).

3. Results

3.1. Frequency

The frequency of road accidents among pregnant women was 52.08% (n = 25) among pregnant women victims of trauma (n = 48).

3.2. Socio-demographic characteristics

- **Age:** The epidemiological profile was that of a woman in the age group 14-23 years (44%) and 24-33 years (44%).
- **Profession:** the injured pregnant women in our series are housewives in 72 years.
- **Origin:** city dwellers were the most numerous, ie 76% followed by rural 24%.
- **Mode of admission:** The majority of pregnant women were received through requisition from the police (68%) followed by themselves (24%).
- **Type of machine:** The type of machine in the predominant accident was that with two wheels (88%).
- **Age of pregnancy:** Pregnant women in the second trimester of pregnancy were affected (68%).
- **Bodily injuries:** The predominant bodily injuries were minor injuries (52%) followed by non-injuries (simple contusion) (32%) then serious injuries (poly trauma) (16%).
- **Impact of the road accident on pregnancy:** AVP had no impact on pregnancy in (84%) followed by death in utero 12% then threat of premature delivery 4%.
- **Treatment received:** All pregnant women injured with minor injury or without injury (with living fetus) received spason / salbutamol treatment plus progesterone (first trimester) for 48 hours and delivery was directed to patients with death in utero. Polytrauma women were treated by a multidisciplinary team (obstetrician, traumatologist, anesthetist-resuscitator)

Table 1 Bodily injuries

Injury	Number	%
Minor injury	13	52
Without injury	8	32
Serious injury	4	16

Total	25	100
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Table 2 Impact of the road accident on pregnancy

Fetal prognosis	Number	%
Without resonance	21	84
Threatened preterm birth	1	4
Death in utero	3	12
Total	25	100

3.3. Prognosis

3.3.1. Maternal prognosis

- **Condition of the woman on discharge:** The majority of women in an accidental pregnancy, ie 88%, left the hospital without any complications.
- **Maternal mortality:** We recorded maternal mortality rate of 12%.

3.3.2. Fetal prognosis

- **Condition of the fetus / child on discharge:** Most fetuses / child, ie 88%, left the hospital without any complications.
- **Fetal mortality:** We recorded an utero fetal death rate of 12%.

4. Discussion

4.1. Frequency

The frequency of pregnant women was 52.08% (n = 25) among pregnant women victims of trauma (n = 48). This result is comparable to that found by Da Somé et al. [7] or 52% but significantly lower than the 74.34% found by Traore Y in Mali [8]. This could be explained by demographic changes (inhabitants and rolling stock) and the lack of rigor in the application of the Highway Code which are among other factors favoring accidents on public roads [8].

4.2. Socio-demographic characteristics

- **Age:** The epidemiological profile was that of a woman in the age group 14-23 years (44%) and 24-33 years (44%).
- **Occupation:** the injured pregnant women in our series are housewives in 72 years. Our data are in agreement with current data in the literature on road accidents in Africa among pregnant women [4].
- **Origin:** city dwellers were the most numerous, ie 76% followed by rural 24%. This is explained by the high number of wheeled vehicles in urban areas than in rural areas.
- **Mode of admission:** The majority of pregnant women were received through requisition from the police (68%) followed by themselves (24%). Our result is superimposable on that found by Traoré in Mali, ie 69.8% of these patients were received through the requisition drawn up by the police [8]. This is explained by the medico-legal problems posed by road accidents on pregnancy.
- **Type of machine:** The type of machine in the predominant accident was that with two wheels (88%).
- **Age of pregnancy:** Pregnant women in the second trimester of pregnancy were affected (68%).
- **Bodily injuries:** The predominant bodily injuries were minor injuries (52%) followed by non-injuries (simple contusion) (32%) then serious injuries (poly trauma) (16%). In his study Da Some et al found that 21% of these patients presented neither bodily injury nor obstetric complications, while 74% had multiple lesions without immediate repercussions on the fetus and 8.6% had serious lesions [7].

- **Impact of the road accident on pregnancy:** AVP had no impact on pregnancy in 84% followed by fetal death in utero 12% then threat of premature delivery 4%. In his study TRAORE Y et al found 18% of cases of fetal death in utero [8].
- **Treatment received:** All pregnant women injured with minor injury or without injury (with living fetus) received spasfon / salbutamol treatment plus progesterone (first trimester) for 48 hours and delivery was directed to patients with death in utero. Polytrauma women were treated by a multidisciplinary team (obstetrician, traumatologist, and anesthetist-resuscitator) [7].

4.3. Prognosis

4.3.1. Maternal prognosis

- **Condition of the woman after the treatment:** The majority of women in an accidental pregnancy, ie 88%, left the hospital without any complications.
- **Maternal mortality:** We recorded a maternal mortality rate of 12%. This result is lower than that found by TRAORE Y et al, ie 22% [8].

4.3.2. Fetal prognosis

- **State of the fetus / child on discharge:** Most fetuses / child, ie 88%, left the hospital without any complications.
- **Fetal mortality:** We recorded an utero fetal death rate of 12%.

5. Conclusion

Road accidents involving pregnant women are frequent in the prefecture of Siguiri, occurring among young women traveling on two-wheeled vehicles. Trauma and pregnancy management must be multidisciplinary.

Compliance with ethical standards

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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