

Maternal-Fetal Pregnancy Complications of in Minors Raped with or without Physical Restraint in Eastern Democratic Republic of Congo

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Abstract

Introduction: Pregnancy resulting from rape is a public health and sexual and reproductive health issue, especially among minors. Rape can be perpetrated with or without physical restraint. The objective of the present study is to highlight the prevalence of physical coercion leading to pregnancy and the associated maternal-fetal complications. **Methodology:** This was a comparative descriptive and analytical cross-sectional study of complications associated with post-rape pregnancy by physical restraint among minors who were treated at the General Reference Hospital of Panzi over a two-year period from June 2020 to June 2022. A total of 140 minor survivors of violence with pregnancy were included in the study. Data were collected using a questionnaire, coded and analyzed in Excel and XLSTAT version 2014. **Results:** The prevalence of physical constraints was 65%. After multivariate analyses, denial of pregnancy (ORa: 9.64 95% CI: 1.1 - 81.2; p-value: 0.0370), attempted abortion (ORa: 56.1 95% CI: 1.5 - 2027.6; p-value: 0.0278) and agitation during delivery (ORa: 88.7 95% CI: 4.5 - 1715; p-value: 0.0030) were the complications associated with pregnancy in minors who experienced physical restraint rape. In addition, BMI was a factor in reducing the risk of physical restraint rape at the ORa of 0.5054 [0.3; 0.8]; p 0.006). **Conclusion:** Pregnancy among minors is a reality and occurs in a situation of physical coercion in the eastern Democratic Republic of Congo. These pregnancies are often associated with complications that require an intensive management system since they can jeopardize the maternal-fetal prognosis of minors.

Keywords

Post-Rape Pregnancy, Minor, Associated Complications, Eastern DRC

1. Introduction

The incidence of sexual violence used as a weapon of war for its physical and psychosocial consequences has increased over the past two decades [1]. In the eastern part of the DRC, it has reached a prevalence of 40% [2]. Women are the most affected, but also children, young ladies, and the elderly are at risk [3].

Sexual violence mostly leads to pregnancy in girls and adolescents. Pregnancy resulting from rape is a public health and sexual and reproductive health problem [4].

Globally, 7% to 48% of teenage girls report that their first sexual experience was physically forced by rape [5]. Unwanted pregnancies present increased risks of maternal and perinatal morbidities, such as low birth weight, premature delivery, perinatal death, cerebropelvic disproportion, and maternal death. Its prevalence ranges from 1.9% to 23.4% [4] [6].

Despite this, in the DRC, apart from the study conducted by Gillian Burkhardt *et al.* [2] which traces the danger incurred by women carriers of post-sexual abuse pregnancies in a context where abortion is not legalized, no other study has explored the complications maternal-fetal pregnancies in minors who have been physically raped compared to those who have been raped without physical restraint.

To fill in the blank, this study aims to help reduce maternal-fetal complications related to pregnancies of minors in DRC and to determine the frequency of physical restraint in pregnant minors and to compare complications of maternal-fetal pregnancies associated with physical restraint rape in surviving minors.

2. Methodology

This study is transversal, descriptive and analytical with a comparative vision dealing with the complications associated with pregnancies contracted after a rape with physical. Its participants are minors that were followed at the General Reference Hospital of Panzi, in the eastern part of the Democratic Republic of the Congo. The study covers a two-year period: from June 2020 to June 2022.

All the post-sexual abuse pregnant victims under 18 years old were included in this study. On arrival, all of these victims were consulted in the service and then, the pregnancy was confirmed. The follow-up was carried out from the prenatal consultations to the delivery

The data were collected on a systematic questionnaire after a signed consent from the victim's tutor. The collection was progressively done from the prenatal consultations to the delivery. The research protocol was submitted to the provincial ethics committee for authorization. Since informed consent was already

signed upon admission to the service for victims of sexual violence, confidentiality and anonymity were guaranteed.

The sample size is reasoned and non-exhaustive, validity and reliability testing was carried out and the questionnaire contained several items that you can see in the appendix at the end of the text after the references

The study population consists of 140 post-sexual intercourse pregnant minors contracted with or without restraint.

The data were collected using a questionnaire by four qualified general practitioners, who were bound by professional secrecy and confidentiality. This collection took place at admission, at the time of antenatal care consultation at delivery. The questionnaire, as set out in the appendix, allowed us to collect socio-demographic, psycho-affective and clinical parameters.

Socio-demographic variables were age, origin (urban, rural), occupation (student, out of school), clinical variables were body mass index BMI (normal weight, overweight, obesity) and pregnancy patterns were defined as sexual intercourse with physical restraint (yes, no), accepted pregnancy (yes, no), the relationship of the victim and the perpetrator (in relation to, a close partner, an ex-partner, a foreign person, a family member; unknown), the characteristic of the perpetrator (rebels, civilians, peacekeepers, hemorrhage). The pregnancy profile was prenatal follow-up (number of prenatal visits), attempted termination (yes, no), mode of delivery (vaginal, cesarean), neonatal prognosis: asphyxiation (yes, no), neonatal intensive care unit follow-up (yes, no), maternal prognosis: symptoms of post-traumatic stress state during childbirth (agitation, hypersensitivity, silence, refusal of vaginal touch), complications (perineal tear, post-partum).

The dependent variable is the physically constrained sexual intercourse (yes, no); all the remaining variables mentioned above are independent.

Free and informed consent was obtained after participants had explained the objectives of the study. All information collected was used anonymously only to contribute to the objectives of this study, after obtaining the certificate of the ethics committee registered under the number CNES/DP-SK 001-4125001-189/2022.

For all variables, the data were presented in the tables as absolute and relative frequencies, as well as their p-values, ROs and 95% CIs, as appropriate. For bivariate analyses, the relationship between the variables was studied using the Pearson independence test for variables with a theoretical number greater than 5 and corrected using the exact Fischer test for those with a theoretical number less than or equal to 5. For the multivariate analysis, the logistic regression model was constructed by integrating the significant factors of bivariate analysis. Factors with a p-value < 0.05 were considered statistically significant. All analyses were performed using XLSTAT 2014 software.

3. Results

Frequency of Violence by Physical Restraints

A total number of 140 pregnant minors survivors of violence were included in

the present study. There were 91 who had undergone rape with physical restraint. This means a frequency of 65%.

In total, 140 pregnant minor victims of rape were included in the present study; 76.4% among them come from rural areas, 68.6% were still studying, the median age of the participants was 16 [13; 17] years; 36.4% of these women were overweighted, 6.4% were obese. **Table 1** presents the socio-demographic distribution of the survivors.

According to **Table 2** below, denial of pregnancy after rape among minors is 49.3%, denial is significantly high among minors who have been subjected to rape by physical coercion up to 85.5%; $p < 0.0001$. There is a statistically significant relationship between the degree of relationship of the victim with the perpetrator and physical coercion, 100% of sex with strangers vs. 52.1% of sex between family members vs. 19.4 with a close partner/ex-partner was physically coerced sex ($p < 0.0001$; Pearson's test of independence). 96% of sex with rebels vs. 83.3% of sex with law enforcement vs. 56% of sex with civilians was coerced ($p = 0.0007$; Pearson independence test).

80.6% of perineal tears after childbirth of minors occurred in those who had suffered physical restraints. The relationship between perineal tearing and physical restraints was statistically significant at $p = 0.0385$. **Table 3** presents the relationship between pregnancy and childbirth with physical restraint.

As shown in **Table 4** below, the neonatal data collected show no statistically significant relationship with physical restraint.

Psychological reactions such as hypersensitivity and agitation were common in 22.9% each followed by refusal to vaginal touch in 22.1%. All of these manifestations were significantly marked among survivors who experienced physical restraints compared to those who did not experience physical restraints when they got pregnant after a rape. **Table 5** presents the relationship between post-traumatic psychological reactions to childbirth and physical restraint.

Table 1. Socio-demographical distribution of the survivors.

Variables	N (%)
	140 (100)
Origin	
Rural	107 (76.4)
Urban	33 (23.6)
Level of education	
Schooled	96 (68.6)
Not schooled	44 (31.4)
Age median [min; max] years	16 [13; 17]
Weight Index (N = 140)	
Normal weight	80 (57.1)
Overweight	51 (36.4)
Obesity	9 (6.4)

Table 2. Relation between the Perception of the pregnancy, the profile of the perpetrator and physical restraint.

Variables	Physical restraints			P	OR IC 95%
	Yes	No	Total		
	n (%)	n (%)	n (%)		
Total	91 (65)	49 (35)	140 (100)		
Pregnancy refusal					
NO	32 (45.1)	39 (54.9)	71 (50.7)		1
YES	59 (85.5)	10 (14.5)	69 (49.3)	<0.0001	7.2 (3.2 - 16.1)
Degree of relation					
Member of the family	27 (52.9)	24 (47.1)	51 (36.4)		
Close Partner/ex-partner	6 (19.4)	25 (80.6)	31 (22.1)	<0.0001	-
Unknown	58 (100)	0 (0)	58 (41.4)		
Profession of perpetrator					
Civilian	62 (56.9)	47 (43.1)	109 (77.9)		
Rebel	24 (96)	1 (4)	25 (17.9)	0.0007	-
Security officer	5 (83.3)	1 (16.7)	6 (4.3)		
Pregnancy Consideration					
NO	39 (66.1)	20 (33.9)	59 (42.1)	0.8156	1
YES	52 (64.2)	29 (35.8)	81 (57.9)		0.9 (0.4 - 1.8)
Work Preparation					
NO	25 (69.4)	11 (30.6)	36 (25.7)	0.5166	1
YES	66 (63.5)	38 (36.5)	104 (74.3)		0.7 (0.3 - 1.7)
Attempt to get rid of the pregnancy					
NO	65 (58)	47 (42)	112 (80)	0.0003	1
YES	26 (92.9)	2 (7.1)	28 (20)		9.4 (2.4 - 36.2)

Logistic regression results show that BMI is a protective factor for physical restraint rate of 0.5054 (0.3 - 0.8); p 0.0060. Pregnancy denial (ORa: 9.64 95% CI: 1.1 - 81.2; p-value: 0.0370), abortion attempts (ORa: 56.1 95% CI: 1.5 - 2027.6; p-value: 0.0278) and birth agitation (ORa: 88.7 95% CI: 4.5 - 1715; p-value: 0.0030) are complications associated with pregnancy in minors who have suffered rape by physical restraints. **Table 6** presents the logistic regressions of complications in minors who experienced rape with physical restraint compared to those who experienced rape without physical restraint.

Table 3. Relationship between pregnancy and childbirth with physical restraint.

Variables	Physical restraint			P	OR IC 95 %
	Yes	No	Total		
	n (%)	n (%)	n (%)		
Total	91 (65)	49 (35)	140 (100)		
Pre eclampsia					
No	86 (64.7)	47 (35.3)	133 (95)		1
Yes	5 (71.4)	2 (28.6)	7 (5)	1	7.2 (3.2 - 16.1)
RCIU					
No	81 (62.8)	48 (37.2)	129 (92.1)	0.0967	1
Yes	10 (90.9)	1 (9.1)	11 (7.9)		5.9 (1.0 - 34)
End of pregnancy					
At due time	65 (62.5)	39 (37.5)	104 (74.3)		
Post-mature	4 (80)	1 (20)	5 (3.6)	0.5882	-
Premature	22 (71)	9 (29)	31 (22.1)		
Pre-labor rupture of membranes					
No	82 (66.7)	41 (33.3)	123 (87.9)		1
Yes	9 (52.9)	8 (47.1)	17 (12.1)	0.4004	0.6 (0.2 - 1.5)
MFIU					
No	89 (65.4)	47 (34.6)	136 (97.1)	0.9153	1
Yes	2 (50)	2 (50)	4 (2.9)		0.5 (0.2 - 1.3)
Spontaneous labor					
No	22 (75.9)	7 (24.1)	29 (20.7)	0.1684	1
Yes	69 (62.2)	42 (37.8)	111 (79.3)		0.5 (0.2 - 1.3)
Stimulated labor					
No	71 (64)	40 (36)	111 (79.3)		1
Yes	20 (69)	9 (31)	29 (20.7)	0.6151	1.5 (1.5 - 2.9)
Caesarean					
No	59 (60.8)	38 (39.2)	97 (69.3)	0.1198	1
Yes	32 (74.4)	11 (25.6)	43 (30.7)		1.9 (0.8 - 4.1)
Postpartum haemorrhage					
No	85 (63.9)	48 (36.1)	133 (95)	0.4213	1
Yes	6 (85.7)	1 (14.3)	7 (5)		3.4 (0.5 - 20.7)
Perineal tear					
No	66 (60.6)	43 (39.4)	109 (77.9)	0.0385	1
Yes	25 (80.6)	6 (19.4)	31 (22.1)		2.7 (1.05 - 6.9)

Table 4. Relationship between neonatal outcome and physical restraint.

Variables	Physical restraint			P	OR IC 95%
	YES	NO	Total		
	n (%)	n (%)	n (%)		
Total	91 (65)	49 (35)	140 (100)		
Asphyxia					
NO	78 (62.4)	47 (37.6)	125 (89.3)	0.0855	1
YES	13 (86.7)	2 (13.3)	15 (10.7)		3.9 (0.1 - 15.8)
Malformations					
NO	86 (64.2)	48 (35.8)	134 (95.7)		1
YES	5 (83.3)	1 (16.7)	6 (4.3)	0.665	2.8 (0.1 - 15.8)
Reanimation					
NO	67 (60.9)	43 (39.1)	110 (78.6)	0.052	1
YES	24 (80)	6 (20)	30 (21.4)		2.7 (0.9 - 4.1)
Hospitalization in neonatology					
NON	66 (61.7)	41 (38.3)	107 (76.4)	0.1383	
OUI	25 (75.8)	8 (24.2)	33 (23.6)		

Table 5. Relationship between post-traumatic psychological reactions at childbirth and physical restraint.

Variables	Physical restraint			P	OR IC 95%
	YES	NO	Total		
	n (%)	n (%)	n (%)		
	91 (65)	49 (35)	140 (100)		
Hypersensitivity	32 (100)	0 (0)	32 (22.9)	<0.0001	-
Agitation	30 (93.8)	2 (6.3)	32 (22.9)	0.0002	11.2 (3.01 - 44.3)
vaginal touch refusal	30 (96.8)	1 (3.2)	31 (22.1)	<0.0001	-
Mutism	11 (100)	0 (0)	11 (7.9)	0.0083	-

4. Discussions

The results of this study highlight the problems of physical aggression and complications among minors who are survivors of sexual violence when they come for delivery at General Reference Hospital of Panzi. Sexual violence may be perpetrated with or without physical restraint. A study [7] reports the benevolence and kindness of perpetrators to obtain favors and sexual intercourse with minors. The results of this study show a 65% prevalence of physically restrained rape, a rate 1.7 times higher than that found by Shehu *et al.* [8]. This rate is slightly lower than that found in Zimbabwe, which found a rate of 62% [9]. These differences can be explained by differences in geographical areas and the population included in these studies. The study by Shehu E. *et al.* was conducted in Nigeria and included an adult and minor population while two other studies considered a minor population.

Table 6. Table of logistic regressions of complications in minors who underwent rape with physical restraints compared to those who underwent rape without physical restraints.

Source	p-value	ORa IC 95%
IMC	0.0060	0.5054 (0.3 - 0.8)
Hypersensitivity	0.9936	
Mutism	0.9996	
Agitation	0.0030	88.7 (4.5 - 1715)
TV Refusal	0.6246	2.1 (0.1 - 38.4)
Pregnancy denial	0.0370	9.6 (1.1 - 81.2)
Abortion attempts	0.0278	56.1 (1.5 - 2027.6)
Perinea tear	0.2002	0.05 (0 - 4.7)
Degree of relation-unknown		
Degree of relation-member of the family	0.9928	
Degree of relation between the suspect-partner/ex-partner	0.9923	
Profession of the perpetrator -civilian		
Profession of the perpetrator -Security agent	0.9958	
Profession of the perpetrator-rebel	0.6595	0.1833 (0 -347.3)

There is a statistically significant relationship between the degree of the victim's relationship with the perpetrator and physical strain, 100% of sexual intercourse with strangers vs 52.1% of relationships between family members vs 19.4% with an close partner/ex-partner were physically forced sexual intercourse ($p < 0.0001$; Pearson Independence Test). 96% of sexual intercourse with the rebels versus 83.3% with law enforcement versus 56% with civilians was conducted under restraints ($p = 0.0007$; Pearson Independence Test).

Logistic regression results show that BMI decreases the risk of physical restrained rape at ORa ORa by 0.5054 [0.3; 0.8]; $p = 0.0060$. The physical adult appearance offered due to weight could explain this. Indeed, according to Shanaz Mathews *et al.* [10] [11], age has always proven to be a risk factor as younger children are unable to protect themselves and are at increased risk of physical violence.

Overall, the denial of post-rape pregnancy in minors is 49.3% and pregnancy was not considered in 59.9%. Denial and non-consideration of pregnancy are elevated in minors who underwent rape by physical violence respectively in 85.5% ($p < 0.0001$) and 64.2% ($p = 0.8156$). These attitudes of refusal and non-consideration of pregnancy could explain the 20% attempt rate in our study. Multivariate analyses show that the use of force (physical restraints) increases the risk of pregnancy denial (ORa: 9.64 95% CI: 1.1 - 81.2; p -value: 0.0370) and abortion attempts (ORa: 56.1 95% CI: 1.5 - 2027.6; p -value: 0.0278).

It is not uncommon to observe signs of post-traumatic stress while working in

post-rape pregnancies. Baumgartner *et al.* [12] report signs of anxiety, fear and reliving trauma during vaginal examination. WHO wants deliveries to take place in a safe environment [13]. Supportive psychotherapy must be continuous even during labor, especially in this category of patients. As a matter of fact, the woman's satisfaction during childbirth will be achieved.

Agitation during childbirth (ORa: 88.7 95% CI: 4.5 - 1715; p-value: 0.0030) are complications associated with pregnancy in minors who have suffered rape by physical restraints.

Bi-variate analyses show a 22.1% prevalence of perineal tears. In 80.6% of perineal tears after childbirth of minors occurred in those who suffered physical stress ($p < 0.0385$). After multivariate analysis, this complication is no longer a complication associated with physical restraint. This means that apart from physical restraints, other factors explain its occurrence in minors. Immaturity of the pelvis is the most mentioned explanation [14].

The study limitations were observed in the case where some pregnant minors presented to the hospital with pregnancies that were already of advanced gestational age and some did not keep the appointment for prenatal follow-ups and the study being mono-centric

5. Conclusion

The post-rape pregnancy of girls under the age of 18 is a reality in the context of conflict, as reported in eastern Democratic Republic of Congo. They occur mainly in a situation of violence or physical manipulation of girls physically and psychologically immature. The perpetrators are generally civilian, well-known but sometimes unknown to victims. These pregnancies are associated with obstetric and psychological complications that may affect the minor's prognosis. Sexual intercourse obtained with physical restraint increases the risk of complications of pregnancy denial, abortion attempts and agitation throughout the duration of pregnancy. In addition to the medico-obstetric support that pregnant minors receive, the results of this study highlight the importance of intensifying psychological monitoring, especially for the minors who have undergone physical restraint during sexual intercourse that led to pregnancy.

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Authors Contributions

KK, EIM, RM contributed to the study design, planning, data collection, data analysis, manuscript writing and final manuscript editing. YTJ contributed data collection supervision. NNO contributed to the study design, planning data collection and final manuscript editing.

Conflicts of Interest

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

References

- [1] Bitenga Alexandre, A., Moke Mutondo, K., Bazilashe Balegamire, J., Emile, A. and Mukwege, D. (2021) Motivations for Sexual Violence in Armed Conflicts: Voices from Combatants in Eastern Democratic Republic of Congo. *Medicine, Conflict and Survival*, **37**, 15-33. <https://doi.org/10.1080/13623699.2021.1882365>
- [2] Burkhardt, G., Scott, J., Onyango, M.A., Rouhani, S., Haider, S., Greiner, A., Albutt, K., VanRooyen, M. and Bartels, S. (2016) Sexual Violence-Related Pregnancies in Eastern Democratic Republic of Congo: A Qualitative Analysis of Access to Pregnancy Termination Services. *Conflict and Health*, **10**, 1-9. <https://doi.org/10.1186/s13031-016-0097-2>
- [3] Mukengere Mukwege, D. and Nangini, C. (2009) Rape with Extreme Violence: The New Pathology in South Kivu, Democratic Republic of Congo. *PLOS Medicine*, **6**, e100024. <https://doi.org/10.1371/journal.pmed.1000204>
- [4] Basile, K.C., Smith, S.G., Liu, Y., Kresnow, M., Fasula, A.M., Gilbert, L. and Chen, J. (2018) Rape-Related Pregnancy and Association with Reproductive Coercion in the US. *American Journal of Preventive Medicine*, **55**, 770-776. <https://doi.org/10.1016/j.amepre.2018.07.028>
- [5] McFarlane, J. (2007) Pregnancy Following Partner Rape: What We Know and What We Need to Know. *Trauma, Violence & Abuse*, **8**, 127-134. <https://doi.org/10.1177/1524838007301222>
- [6] Koya, M.M. and Mpinga, E.K. (2022) Perceptions of the Rape Crisis in the Eastern Democratic Republic of Congo: A Community-Based Approach Using an Opportunistic Design. *African Journal of Reproductive Health*, **26**, 42-56.
- [7] Guillet-May, F. and Thiebaugeorges, O. (2006) Le médecin face aux agressions sexuelles et au viol. *Médecine & Droit*, **2006**, 35-43. <https://doi.org/10.1016/j.meddro.2006.01.006>
- [8] Shehu, C.E., Ekele, O.I., Panti, A.A., Ango, I., Ekele, B.A. and Umar, M. (2019) The Incidence, Pattern and Management of Sexual Assault in a Tertiary Hospital in North-Western Nigeria. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, **8**, 3715-3721. <https://doi.org/10.18203/2320-1770.ijrcog20193804>
- [9] Harrison, R.E., Pearson, L., Vere, M., Chonzi, P., Hove, B.T., Mabaya, S., Chigwamba, M., Nhamburo, J., Gura, J. and Vandeborne, A. (2017) Care Requirements for Clients Who Present after Rape and Clients who Presented after Consensual Sex as a Minor at a Clinic in Harare, Zimbabwe, from 2011 to 2014. *PLOS ONE*, **12**, e0184634. <https://doi.org/10.1371/journal.pone.0184634>
- [10] Ganchimeg, T., Ota, E., Morisaki, N., Laopaiboon, M., Lumbiganon, P., Zhang, J., Yamdamsuren, B., Temmerman, M., Say, L. and Tunçalp, Ö. (2014) WHO Multi-country Survey on Maternal Newborn Health Research Network. Pregnancy Childbirth Outcomes Adolesc Mothers World Health Organ Multicountry Study. *BJOG*, **121**, 40-48. <https://doi.org/10.1111/1471-0528.12630>
- [11] Mathews, S. and Benvenuti, P. (2014) Violence against Children in South Africa: Developing a Prevention Agenda. *South African Child Gauge*, **1**, 26-34.

- [12] Baumgartner, C., Bugnon, C. and De Raemy, A. (2020) Quels sont les impacts des antécédents de violences sexuelles incluant un contact physique sur le déroulement, le vécu et la peur de l'accouchement?: Travail de Bachelor. PhD Thesis, Haute école de santé Genève, Genève.
- [13] (2022) Individualized, Supportive Care Key to Positive Childbirth Experience, Says WHO.
<https://www.who.int/news/item/15-02-2018-individualized-supportive-care-key-to-positive-childbirth-experience-says-who>
- [14] Luhete, P.K., Mukuku, O., Tambwe, A.M. and Kayamba, P.K.M. (2017) Etude du pronostic maternel et périnatal au cours de l'accouchement chez l'adolescente à Lubumbashi, République Démocratique du Congo. *The Pan African Medical Journal*, **26**, Article No. 182. <https://doi.org/10.11604/pamj.2017.26.182.9479>

Annexe

SURVEY QUESTIONNAIRE

Code:_____ Age:_____ Weight:_____ Height:_____

Address:_____ Occupation: student/no Marital status: single/married

Level of education: never studied/primary/secondary

-Number of siblings:_____

Psychological background

-pregnancy accepted YES/NO

Information about the perpetrator

-number: 1/2/3+.

Consensual relationship: YES/NO

Relationship between suspect and patient

-knowledge

-family member

-stranger

intimate partner/ex-partner

-unknown

Suspect is a police officer/military officer/rebel/civilian

-YES/NO

ANC number:_____

ANC refocused

-Was your pregnancy considered specific YES/NO

-Were you adequately prepared for:

-Labor and delivery (L&D) YES/NO

Attempt to remove the pregnancy YES/NO

EVOLUTION OF THE PREGNANCY

-pre-eclampsia

-LA quantity (mm)

-IUGR

-age of pregnancy (SA)

-RPM

-MFIU

Labor parameters

-spontaneous labor YES/NO

-Stimulated labor YES/NO

-duration of work (hours): _____

active phase: _____

-aspect of the LA: clear/meconial

Signs of post traumatic stress during the W

Hypersensitivity

Refusal of TV

Mutism

Agitation

FETAL PROGNOSIS

-APGAR: _____/_____/_____

-Resuscitation YES/NO

-neonatal hospitalization YES/NO

Duration (days): _____

Delivery parameters

-Caesarean section YES/NO

•indication bassin/other: _____

COMPLICATIONS

Postpartum hemorrhage YES/NO

-quantity (ml): _____

-transfusion number of units

If vaginal delivery

Soft tissue tears YES/NO

-cervix

-Perineum (degree)

-vagina