

Domestic violence and obstetric outcome among pregnant women in Ilorin, North Central Nigeria

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Pregnancy constitutes a period of heightened risk for domestic violence, which can be physical, sexual, psychological, or emotional. A woman may be at risk irrespective of race, age, socioeconomic status, or educational level [1]. The abdomen is the most common target for physical violence [1].

Women who experience violence during pregnancy have a higher risk of pregnancy loss, preterm delivery, low birth weight neonates, premature rupture of membranes, stillbirth, and increased likelihood of cesarean delivery [1]. The main objective of the present study was to investigate pregnancy outcomes among women who had experienced domestic violence compared with women who had not been abused.

The study was a prospective case-control study conducted at the Obstetrics and Gynecology department, University of Ilorin Teaching Hospital, Ilorin, Nigeria, from January 1 to June 30, 2012. All pregnant women attending the prenatal clinic were informed about the study and those who provided written informed consent were screened for domestic violence using a modified version of the Abuse Assessment Screen [2]. Monogamous families had 1 wife and polygamous families had 2 or more wives. The sample size was determined by the formula for comparison of groups and the sampling method was purposive sampling. Pregnant women recruited to the study were required to affirm or refute whether they had experienced physical, sexual, emotional, or psychological violence during the preceding year or in the index pregnancy that had been perpetrated by an intimate partner. Physical violence included beating or using objects with intent to hurt, while sexual violence included unwanted fondling or forced sex. Emotional or psychological abuse included verbal abuse, humiliation, and isolation. The control group consisted of pregnant women who had not experienced domestic violence matched for parity, age, family type, education level, history of preterm birth, smoking, and ultrasound scan for exclusion of fetal congenital abnormalities. Women with previous uterine surgeries were excluded from the study. Maternal outcome measures included preterm labor or delivery, operative vaginal or cesarean delivery, puerperal pyrexia, breastfeeding problems, anxiety, and depression. Presentation with cervical dilatation greater than or equal to 8 cm was termed late presentation. All instrumental deliveries were performed by the same individual. Neonatal outcomes included prematurity, low birth weight, birth asphyxia, intrauterine fetal death, and perinatal mortality.

Ethical approval was obtained from the ethics and research committee of the University of Ilorin Teaching Hospital before commencing the study. Data were analyzed using SPSS version 18 (IBM, Armonk, NY, USA). $P < 0.05$ was considered statistically significant.

A total of 200 pregnant women were included in the study, comprising 100 women who had experienced domestic violence (subjects) and 100 pregnant women who had not (controls). The age range for both groups was 18–42 years (mean 30.18 ± 4.78 years). For other variables, comparisons between the subject and control groups were: 82% vs 89% monogamous families, 25% vs 28% primiparity, 16% vs 12% late booking, and 96% vs 97% married couples. The perpetrator was the woman's husband in 96% of cases of domestic violence. Women who had experienced domestic violence were significantly more likely to have preterm labor ($P = 0.037$), instrumental vaginal delivery ($P = 0.024$), cesarean delivery ($P < 0.001$), breastfeeding problems ($P = 0.015$), postpartum depression ($P < 0.001$), and anxiety disorders ($P = 0.008$) (Table 1). The neonates of the subject group had statistically significant low birth weight ($P < 0.001$), and higher rates of birth asphyxia ($P < 0.001$) and neonatal death ($P = 0.008$) compared with neonates of the control group (Table 2). All instrumental vaginal deliveries were performed because of a prolonged second stage of labor. Cesarean deliveries were performed for fetal distress in 52% compared with 27% of the subject

Table 1

Pregnancy outcome among women who had experienced domestic violence (subjects) and women who had not (controls).^a

Outcome	Subjects (n = 100)	Controls (n = 100)	Relative risk	X ²	P value
Premature rupture of membranes (n = 23)	14 (14.0)	9 (9.0)	1.6	1.228	0.268
Preterm labor (n = 16)	12 (12.0)	4 (4.0)	3.0	4.348	0.037
Mode of delivery					
Instrumental vaginal (n = 5)	4 (4.0)	1 (1.0)	4.0	5.00	0.024
Cesarean (n = 27)	17 (17.0)	10 (10.0)	1.7	22.88	<0.001
Puerperal pyrexia (n = 4)	3 (3.0)	1 (1.0)	3.0	4.082	0.250
Puerperal sepsis (n = 5)	3 (3.0)	2 (2.0)	1.5	0.205	0.651
Breastfeeding problems (n = 23)	17 (17.0)	6 (6.0)	2.8	5.944	0.015
Depression (n = 26)	18 (18.0)	8 (8.0)	2.3	21.52	<0.001
Anxiety (n = 7)	6 (6.0)	1 (1.0)	6.0	7.00	0.008

^a Values are given as number (percentage) unless otherwise indicated.

Table 2

Neonatal outcome among women who had experienced domestic violence (subjects) and women who had not (controls).^a

Outcome	Subjects (n = 100)	Controls (n = 100)	Relative risk	X ²	P value
Preterm delivery (n = 12)	9 (9.0)	3 (3.0)	3.0	14.00	<0.001
Birth weight, g					
<2500 (n = 20)	12 (12.0)	8 (8.0)	1.5	16.05	<0.001
2500 – 2999 (n = 40)	25 (25.0)	15 (15.0)	1.7	35.85	<0.001
3000 – 3499 (n = 104)	46 (46.0)	58 (58.0)	0.8	1.385	0.239
>3499 (n = 36)	17 (17.0)	19 (19.0)	0.9	0.111	0.739
Intrauterine fetal death (n = 4)	2 (2.0)	2 (2.0)	1.0	1.00	0.317
Birth asphyxia (n = 17)	14 (14.0)	3 (3.0)	4.7	17.00	<0.001
Neonatal death (n = 7)	5 (5.0)	2 (2.0)	2.5	7.00	0.008

^a Values are given as number (percentage) unless otherwise indicated.

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and control groups, respectively. Among the subject group, 38% presented late in labor compared with 16% in the control group.

In the present study, the prevalence of domestic violence in pregnancy was 50% and husbands were the most common perpetrators. The violence was unrelated to sociodemographic parameters. Domestic violence was a marker for adverse maternal and neonatal outcomes with statistical significance.

The prevalence of domestic violence in the present study was higher than the prevalence of 28% reported by Ameh and Abdul [3] in Nigeria, indicating a rising trend in domestic violence. The finding that husbands were the most common perpetrators paralleled a study conducted in Abuja, Nigeria [4]. The present study, like that of Ezechi et al. [5], reported no association between domestic violence and sociodemographic characteristics, which further emphasizes its pervasive effect across all sociodemographic groups. The adverse maternal outcomes reported in the present study were similar to reports by other researchers [6], with higher rates of instrumental vaginal and cesarean deliveries needed to expedite delivery because of fetal distress due to premature rupture of membranes and preterm labor. The adverse neonatal outcomes were consistent with previous reports of adverse neonatal outcome as a complication of domestic violence in pregnancy [6]. The pathway of the direct effect of physical trauma from domestic violence encountered during pregnancy and leading to adverse obstetric outcome [6] was not applicable in the present study, while the indirect pathway of late onset of prenatal care, late presentation in labor, and physical and emotional deprivation appear to be more relevant [6].

In conclusion, domestic violence is prevalent in this environment, appears to be increasing, and is a marker for adverse pregnancy outcomes. Routine screening for domestic violence during prenatal booking is recommended to identify vulnerable women, interrupt the cycle of abuse, and prevent adverse pregnancy outcomes.

Conflict of interest

The authors have no conflicts of interest.

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Rabies in a pregnant woman and delivery of a live fetus

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Rabies is almost 100% fatal, unless post exposure prophylaxis is administered [1]. Maternal death caused by rabies is particularly tragic since the disease is preventable. The present report describes an unusual case of maternal death from rabies and delivery of a healthy neonate.

A 20-year-old nulliparous woman from a remote rural area was admitted with labor pain, restlessness, and disorientation at 34 weeks

of pregnancy to Bankura Sammilani Medical College, Bankura, West Bengal, by a peripheral health worker. The patient's native language was difficult to understand and she was hypertensive (150/105 mm Hg). Prophylactic magnesium sulfate was given to prevent eclamptic fits. A female neonate weighing 2250 g was delivered by cesarean under spinal anesthesia the following morning because of nonprogress of labor. Later that evening the patient developed hydrophobia and aerophobia. She was clinically diagnosed with rabies and died 36 hours after cesarean delivery. Postmortem macroscopic and microscopic examinations confirmed the diagnosis of rabies. The neonate remained in the neonatal care unit for 8 weeks, and an anti-rabies vaccine with immunoglobulin was given as per the WHO guidelines [1]. The infant remained healthy 6 months after discharge.

On investigation of the patient's history, her family members revealed that she had been bitten by a cat 4 weeks prior to admission. The cat could not be traced. The patient had attended the peripheral health center but did not receive a rabies vaccine.

Pregnancy and infancy are no longer contraindications for post exposure prophylaxis [1]. In India, adequate rabies vaccines and immunoglobulin are available free of charge from primary health centers up to district hospital level.

Sub-centers in India are the first point of contact between the community and the primary health care system, and are attended by peripheral health workers who are supervised by a medical officer from the nearby primary health center. Prenatal checkups for

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