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Obstetric Outcome of Pregnancies Complicated by Domestic Violence

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Abstract

Background: Domestic violence is a pattern of assault and behavior perpetrated by one partner against the other. Historically most of those oppressed by domestic violence have been women. The lifetime prevalence of domestic violence against women is 10% - 69%. Though this violence might have started or escalated during pregnancy, pregnancy specific prevalence is between 1% - 20%. The objective was to determine the prevalence and obstetric complications. Domestic violence is against pregnant women in tertiary clinic of a developing nation. Methodology: It was a hospital based cross-sectional case control study conducted within the period of one year. Close ended questionnaires were administered. Result: Two hundred and seventy patients were recruited. The lifetime prevalence of physical violence against women was 28.5%. 12.5% (5/40) of victims smoke cigarettes; the prevalence of alcohol intake by the victims was 45%. 72.5% of partners of victims smoke as compared to 25.5% of partners of non victims. Unemployed women were victims of domestic violence far more than the employed women. Pregnant women who are victims of physical violence are more likely to suffer adverse pregnancy outcome. Violence in pregnancy is quite commoner than most of the conditions routinely screened for during antenatal care. The association of such violence with significant maternal and fetal/neonatal morbidity and mortality emphasizes the fact that domestic violence is not just a social problem but a feto-maternal health hazard that requires the input of every stakeholder to address.

Keywords

Obstetric, Violence, Pregnant, Domestic

1. Introduction

Domestic violence is a pattern of assault and behavior perpetrated by one partner against the other. It can include

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physical, sexual, and psychological attacks as well as emotional intimidation, verbal abuse, destruction of pets and property, marital rape, and social isolation [1]-[6].

Domestic violence can be found in all age groups and socioeconomic strata and occurs in homosexual as well as heterosexual relationships [1] [7].

Historically most of those oppressed by domestic violence are women [1] [3] [7] [8].

The incidence of physical violence and sexual abuse against women has been on the increase [3] [8]. This increased incidence is particularly higher during pregnancy and the post partum period [8]-[11].

Domestic violence against women is perhaps the most pervasive yet the least recognized human right abuse in the world.

The lifetime prevalence of domestic violence against women is significantly high (10% - 69%) [12]. Though this violence might have started or escalate during pregnancy. Pregnancy specific prevalence of domestic violence varies between 1% - 20% [3] [5] [6] [13]-[16]. According to a study done in Ghana, Kwawukume and Kwawukume, found that 54% of pregnant women studied had suffered violence in the form of physical assault and 44% were forced to have sex when they did not want to. Odujinrin reported an incidence of 30%. Ezegwui *et al.* [17] found a prevalence of 37.2% among antenatal clinic patients of Federal Medical Centre Abakaliki. In ABU Teaching Hospital Zaria, Ameh and Abdul [18] found a prevalence of 28% among antenatal clinic attendees. Twenty-two percent of the patients were forced to have sex while the rest were physically assaulted. The culprits were the spouses in 34%, in-laws in 26% and boyfriends in 22%.

The combination of violence and poverty forces many women to remain in violent and dangerous relationships where they are often subjected to rape and HIV infection by their HIV positive partners [19]-[21]. In fact, recent research in Uganda showed that abusive men often intentionally infected their partners with HIV [21].

Different people attribute different reasons to the cause of domestic violence. Worldwide, studies identify a list of events that are said to provoke or spur violence. This includes disobedience to husband, the lack of submission, and expressing suspicion of infidelity to mention a few.

Cheryl Bernard [22], director Austria's Ludwig Bolzmann Institute noted that:

"Violence against women in the family takes place because the perpetrator and their environment encourage them to feel that this is an acceptable exercise of male prerogative, a legitimate and appropriate way to relieve their own tension in condition of stress, or just to enjoy the feeling of supremacy".

Domestic violence during pregnancy has been associated with serious consequences for women and their children. Pregnant women who experience violence are more likely to delay seeking antenatal care because of deprivation or restriction, unable to gain weight appropriately, and come down with sexually transmitted disease. Persily and Abdulla [23] found a significant relationship between sexually transmitted disease tobacco use and marital status and domestic violence. The prevalence of unwanted or mistimed pregnancy is also higher because of sexual abuse or denial to use contraception. Abortions, antepartum haemorrhage, preterm labour, fetal distress and perinatal mortality rate are also higher among abused women.

In a recent survey of two hospitals in Vancourver, British Columbia Janssen *et al.* [24] found 33% of women who were exposed to violence to have had at least one previous abortion as compared to 21% of other women. Other findings include significantly high odds ratios for antepartum haemorrhage (3.8), intra uterine growth restriction (3.1) and prenatal death (8.1). In the analysis adjusted for use of alcohol, illicit drugs and tobacco, women who were physically abused continued to have an elevated risk of antipartum haemorrhage (odds ratio 3.5) and prenatal death (7.3); the odds ratio for intrauterine growth restriction was elevated (2.8), although it was only marginally significant. Further stratified analysis to examine the association between substance abuse, physical abuse and adverse pregnancy outcome revealed a significant association of physical violence with an increased rate of antepartum haemorrhage among known users of alcohol, illicit drugs or tobacco (relative risk 3.5 - 3.8) and of intrauterine growth restriction among users of those substances (5.3 - 7.1). Perinatal death was positively associated with physical abuse among known users of alcohol (10.1) and among users of illicit drugs. Fernandez and Krueger [25] found the prevalence of preterm delivery to be 22% among victims as compared to 9% among those that did not suffer. 16% had low weight babies as compared with 6% in controlled group.

Domestic violence can also lead to maternal death. Ganatra, Coyaji and Rao [29] found domestic violence responsible for 16% of all maternal death in a study of 400 villages and 7 hospitals in the district of Maharasta India. Domesti violence in pregnancy is therefore a focus attack that puts not just one life but two at risk. It also differs from other forms of violence where the head is usually attacked; battering of pregnancy women tends to be directed at the breast, abdomen or the genitals [25]-[29].

For domestic violence and the law, it is encouraging to note that most constitutions of civilized nations in the world provide for basic right of individuals known as fundamental human rights. It is most disheartening to acknowledge the fact that, most traditional norms and cultures do not provide sources of redress for victims of abuse, and most countries don't have specific laws against domestic violence. In the whole African continent, it is only South Africa that has enacted legislation outlawing domestic violence [30]-[32].

The victims of domestic violence in pregnancy, present with features of increased physical and psychological stress, inadequate prenatal care utilization, poor nutrition and weight gain, and increased maternal behavioral risks (cigarette, alcohol and substance abuse). Physical trauma can cause abruption placenta, preterm labour, and preterm premature rupture of membranes, maternal and fetal injuries and demise [28] [33].

Although abused women seek medical care frequently, as few as 5% are correctly identified by the practitioner to whom they turn for help [14]. Barriers to diagnosis include practitioner's lack of knowledge or training, the lack of recognition of the widespread prevalence of the problem, time constraints, fear of offending the patient, and a feeling of powerlessness in the area of treatment [14] [21] [34]-[36].

A high index of suspicion and thorough understanding of the multiple adverse health effects and high rate of physical and psychological morbidity associated with domestic violence must be acquired by all health care professionals. This will ensure early detection and appropriate treatment and therefore reduces the drain on health care resources. The obstetrician and gynecologist certainly have a medical and ethical obligation to intervene on behalf of the pregnant patient [37].

To this end we decide to determine the prevalence and obstetric complications of domestic violence against pregnant women attending tertiary health facility in a developing nation.

2. Study Design

The study was a hospital based cross-sectional case control study conducted within the period 1st July to 30th November 2006. Close ended questionnaires was designed and were administered.

The study population was made up of women attending booking clinic, antenatal clinic, women who came to deliver and those attending post-natal clinic.

The sampling method was a convenient sampling; every other patient who consents to partake in the study was included. The controls in this study were the women that were not exposed to violence in the study.

The sample size was calculated based on the estimated pregnancy specific prevalence of domestic violence of 20% (0.2) [5] [6] using the formula by D.W. Taylor and got 270 including 10% attrition.

The study was incorporated into the regular booking antenatal, postnatal clinics and daily wards activities. Two hundred and seventy patients were recruited for the study; two hundred and fifty two results were analyzed.

Data collected from both the administration of Questionnaire and the follow up of patient case notes and delivery suite records are presented below. The data were analyzed using the Epi-info statistical package.

The outcomes of pregnancies complicated by domestic violence are compared to those of pregnancies not complicated by domestic violence using ratios and proportions. Statistical significance value was set at P-value < 0.05.

3. Ethical Consideration

Consent to carry out the research was obtained from ethical and scientific committee of the Hospital. Informed consent was obtained from the patients. The right of patient to participate or not was respected.

The results obtained are presented in simple frequency distribution and proportions. Data management and statistical analysis was employed to determine the effect, if any, of physical violence on maternal, social habits, obstetric outcome, and neonatal outcome and to relate maternal demographic factors to the prevalence of domestic violence. EPI info 6 statistical package were used to analyze the data.

4. Discussion

The prevalence of domestic violence in pregnancy is unacceptably high. The lifetime prevalence of physical violence against women was found to be 28.5% from this study. This value is within the range of those found by other researchers' *i.e.* Odunjirin [16] (30%), Ameh and Abdul [18] (28%). The pregnancy specific prevalence of physical violence (15.9%) and sexual violence (15.1) in this study are all within the limits quoted by most lite-

ratures. McFarlane, Parker and Soekan reported a prevalence of one in six (16.6%). Violence can occur anytime in pregnancy with the husband and boyfriends as the main assailants (**Table 1** and **Table 2**).

Social factors associated with high prevalence of domestic violence include both assailant and victim's imbibing the use of alcohol and smoking. **Table 2** shows that 12.5% (5/40) of victims smokes cigarette as compared to 9.4% of none victims, the prevalence of alcohol intake by victims was (18/40 = 45%) as compared to 12/192 = 6.3% by non victims 72.5% (29/40) of partners of victims smokes as compared to 25.5% (49/192) of partners of non victims. Similar findings have been reported by other researchers [2] (**Tables 3-5**). The incidence of domestic violence is significantly higher in women that are not employed when compared to women that are employed (**Table 6**). Educational attainment of both victim and assailant does not seem to protect against domestic violence. Married women are more likely to be predisposed to physical and sexual violence than single, separated or divorced women. Pregnant women who are victims of one form of domestic violence are more predisposed to the others (**Table 7**).

Table 1. Frequency distribution of forced sexual intercourse and physical violence (ever).

Force sexual intercourse & physical violence	Force sexual intercourse number	%	Physical violence number	%
Have you ever been forced to have sexual intercourse against your will?				
Yes	49	19.5	65	25.8
No	196	78.1	187	74.2
No response	6	2.4		
If forced, age at the first being forced to have sexual intercourse:				
Less than 12 years	6	2.4	32	12.7
12 - 18 years	10	4.0		
More than 18 years	28	11.1	188	74.6
Can't remember	5	2.0		
No response	202	80.5		
If forced who forced sexual intercourse?				
Boyfriend	132	52.4		
Husband	62	24.6		
Acquaintance				
Stranger	52	20.6		
In-law	138	54.8		
Relations	62	24.6		
No response				
Father	17	6.7		
Mother	22	8.7		
Brother/sister	8	3.2		
Aunt/uncle	1	0.4		
In-laws	1	0.4		
More than one relation	3	1.2		

Sexual violence was essentially carried out by relations and friends and the minus were not left out of these violence.

Table 2. Frequency distribution of forced sexual intercourse & physical violence in current pregnancy.

Frequency distribution of	Forced sexual intercourse number %		Physical violence number %	
Have you ever been forced to have sex in this pregnancy?				
Yes	38	15.1	40	15.9
No	187	89.3	192	76.5
No response	27	10.7	19	7.6
If yes how many times?				
Once	16	6.4	10	4.0
Twice	8	3.2.	30	12.
More than twice	15	6.0	0	0.0
No response	212	84.5	211	84
If yes how old was the pregnancy when you were first forced?				
<12 weeks	21	8.3	10	4.0
12 - 28 weeks	13	5.2	24	9.5
>28 weeks	5	2.0	9	3.6
No response	213	84.5	209	82.9
If yes by whom?				
Boyfriend	7	2.8	6	2.4
Husband	33	11.5	29	11.5
In-laws	0	0.0	0	0.0
Acquaintance	0	0.0	0	0.0
Strangers	0	0.0	0	0.0
More than one of the above	0	0.0	7	2.8
No response	212	84.1	210	83.3

Domestic violence cuts across all gestational age in pregnancy, but commoner in the 1st trimester major colprits were the husbands.

Table 3. Prevalence of physical violence amongst pregnant women by correlate (social factors).

Attribute	Physical violence				Odd ratio
	Yes	%	No	%	
Do you smoke?					
Yes	5	20.8	18	75	2.7 (2.33 - 5.48)
No	28	13.7	164	80	P < 0.05
No resp.	7	31.8	10	45.5	Significant
Do you drink alcohol?					
Yes	18	58.1	12	38.7	21.92 (8.17 - 60.69)
No	15	7.1	179	84.8	P < 0.05
No resp.	7	77.8	1	11.1	Significant
Does your partner drink alcohol?					
Yes	19	17.9	83	78.3	1.8 (0.56 - 2.46)
No	21	14.2	108	75.0	P > 0.05
No resp.	0	0.0	1	0.5	Not significant
Does he smoke?					
Yes					7.64 (3.35 - 17.17)
No	29	35.4	49	59.8	P < 0.05
No resp.	11	6.5	142	84.5	Significant

Alcohol and cigarette smoking by both all have impact on domestic violence.

Table 4. Prevalence of violence amongst ANC women by correlate (obstetric factors).

Attribute	Physical violence				Odd ratio
	Yes	%	No	%	
Gestational age at booking					
<28 wks	7	13.5	42	80.8	1.825.48
>28 wks	12	7.7	131	84.0	(0.6 - 5.39)
Un-booked	20	47.6	19	45.2	P < 0.05
No record	1	2.5	0	0.0	Insignificant
Number of ANC attendance					
<6	18	22.0	53	64.4	13.70 (3.59 - 61.27)
>6	3	2.36	121	95.3	P < 0.05
No attendance	19	42.2	21	50.0	Significant
Haemoglobin concentration at first presentation.					
<10 gms/dl	5	17.2	20	69.0	1.52 (0.46 - 4.78)
>10 gms/dl	27	13.1	164	79.6	P > 0.05
No record	8	50	8	50	Insignificant
Abnormal vaginal discharge					
Present	22	43.1	29	54.9	2.76 (1.26 - 2.18)
Absent	17	8.8	162	83.5	P < 0.05
No response	1	16.7	1	16.7	Significant
Urinary tract infection					
Present	1	3.7	17	63.0	2.22 (0.41 - 3.47)
Absent	34	15.5	175	79.9	P > 0.05
No response	5	12.5	0	0.0	Insignificant
Bleeding PV					
Present	11	84.6	21	7.7	72.45 (9.07 - 15.57)
Absent	129	12.2	191	80.3	P < 0.05
No response	0	0.0	0	0.0	Significant
Abortion					1.6 (1.34 - 8.80)
Present	1	25	3	75	P < 0.05
Absent	39	15.8	189	76.5	Significant
PROM					5.87 (2.24 - 15.45)
Present	12	48.0	13	52.0	P < 0.05
Absent	28	12.4	178	79.1	Significant
Preterm labour					
Present	12	34.3	23	65.7	4.08 (1.62 - 9.89)
Absent	22	10.5	169	80.5	P < 0.05
No response	6	100	0	0.0	Significant
Prolong labour					36.03 (6.98 - 249.06)
Present	11	84.6	2	15.4	P < 0.05
Absent	29	12.2	190	79.8	Significant
Mode of delivery					
SVD	27	17.4	134	77.0	2.37 (1.5 - 3.5)
OVD	2	5.1	32	82.1	P < 0.05
CS	11	31.4	23	65,7	Significant

OVD: operative vaginal delivery. The violent groups booked late, attends antenedtal clinic less frequently and about 40% of them have had an episode of bleeding in pregnancy suggesting threatened abortion. During the study period, there were three maternal death in the department, one of the patients died of severe antepartum haemorrhage preceded by domestic violence.

Table 5. Prevalent of domestic violence amongst pregnant women by correlate (neonatal factor).

Attribute	Physical violence				Odd ratio
	Yes	%	No	%	
Apgar score at					
5 min.					9.67
<6	23	42.6	28	51.9	(4.11 - 23.07)
>6	13	7.2	153	84.5	P < 0.05
No response	4	25.0	11	68.8	Significant
Birth weight					
<1.5 kg	1	11.1	8	88.9	6.0
1.5 - 2.49 kg	21	52.5	28	14.6	(0.93 - 2.58)
>2.5 kg	18	9.4	155	81.2	P < 0.05
No response	0	0.0	1	0.5	Significant
Neonatal					
Sepsis					1.21
Present	4	23.8	16	76.2	(0.32 - 4.20)
Absent	35	15.2	180	78.3	P > 0.05
					Insignificant
Perinatal					
Mortality					
Present	6	28.6	12	57.1	2.62
Absent	34	14.8	178	77.4	(0.81 - 8.21)
					P > 0.05
					Insignificant

Domestic violence was only evident in weight of these neonates at birth.

Pregnant women who are victims of physical violence are more likely to suffer adverse pregnancy outcome. The odd ratios are significantly elevated for number of times patient attended antenatal clinic (odd ratio 13.7), abnormal virginal discharge (odd ratio 2.6) bleeding in pregnancy (odd ratio 72.45), abortion (1.6), premature rupture of fetal membranes (5.87) preterm labour (4.08) as well as high rate of operative deliveries among victims (odd ratio 2.37) (**Table 3**). These findings are consistent with findings of other researchers. The odd ratios are however not elevated for gestational age at booking, haemoglobin concentration at booking, and the prevalence of urinary tract infection. There is a significant relationship between physical violence and neonatal outcome. The elevated odd ratio for apgar score < 6 at 5 min (odd ratio 9.67), low birth weight (odd ratio 6) signifies bad neonatal outcome.

During the study period there were three maternal deaths in the department, two of the women died of obstetric factors, one died of severe antepartum haemorrhage precipitated by physical assault by her husband. This denotes physical violence as a cause of 33% of maternal mortality within the period of this study. Though this figure is much higher than that found by Ganatra *et al.*, domestic violence is a major cause of maternal mortality.

5. Conclusion

Violence against pregnant women is a common practice that has remained for generations despite civilization.

Table 6. Prevalence of domestic violence amongst pregnant women by demographic factors.

Attribute	Physical violence				Odd ratio
	Yes	%	No	%	
Age					
<18 years	5	7.6	61	92.4	0.37 (0.12 - 1.06)
>18 years	35	19.1	149	80.9	P < 0.05
No response	0	0.0	0	0.0	Insignificant
Edu. (victim)					
No formal edu.	11	21.2	37	71.2	1.96 (1.7 - 3.4)
Elem/sec	17	10.6	131	81.9	P < 0.05
Pst. sec.	12	30.8	24	61.5	Significant
Edu. (assailant)					
No formal edu.	6	37.5	7	43.8	6.90 (1.3 - 7.65)
Elem/sec.	20	16.5	96	79.3	P < 0.05
Post sec.	13	11.5	89	78.8	Significant
Religion					
Christian	16	12.9	100	80.6	1.50 (0.76 - 2.99)
Muslim	24	19.0	91	72.2	P < 0.05
Other	0	0.0	1	100	Insignificant
Circumcised?					
Yes	9	40.9	12	54.5	1.14 (0.034 - 3.66)
No	31	14.2	169	77.5	P < 0.05
No response	0	0.0	11	100	Insignificant
Employed?					
Yes	3	4.1	66	90.4	
No	33	20.9	110	96.6	
No response	4	20.0	16	80.0	
Marital status					
Single	5	38.5	6	46.2	
Married	29	12.7	184	80.3	
Separated	6	75.0	1	12.5	
Divorced	0	0.0	1	100	
Widowed	0	0.0	0	0.0	
Type of marriage					
Monogamy	18	10.0	150	83.3	
Polygamy	12	20.3	41	69.5	
No response	10	83.3	1	8.3	

Edu = education; elem = elementary; sec = secondary; educated & unemployed women were more prone to domestic violence much more than illiterate group.

Table 7. Correlation table between forced sexual intercourse and physical violence in current pregnancy.

Attribute	Forced sex				Chi square
	Yes	%	No	%	
Physical violence	23	57.5	42.5	0	81.5336
No physical violence	15	7.8	158	82.3	df 4
No response	0	0.0	12	63.2	Prob. 0.0000

Physical violence directly correlates with sexual violence.

The most unfortunate thing is that most customs and traditional practices support this practice regardless of the well known harmful effect on both maternal and fetal wellbeing. The prevalence of physical violence against pregnant women (15.9%) found from this research clearly indicates that violence in pregnancy is quite commoner than most of the conditions routinely screened for during antenatal care. The association of such violence with significant maternal and fetal/neonatal morbidity and mortality emphasizes the fact that domestic violence is not just a social problem but a feto-maternal health hazard that requires the input of all stakeholders.

To put an end to this ugly situation is to empower our women through girl child education.

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