Intimate Partner Violence During Pregnancy And Risk Of Still Birth In Hospitals Of Tigray Region Ethiopia

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Research note

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Abstract

Objective: The objective of this study is to assess intimate partner violence during pregnancy and its associated with still birth among postpartum mothers in Tigray region hospital. Results: The prevalence of still birth was 3.6 %. There was a statistically significant association between exposure to intimate partner violence during pregnancy and still birth. Pregnant women who were exposed to intimate partner violence during pregnancy were three times more likely to have still birth 3.3(95%CI: 1.1-9.7)) as compared to those who were not exposed. Other factor associated with still birth was low birth weight 16.7(95%CI:6-46).

Introduction

Intimate partner Violence (IPV) is defines as psychological, sexual and physical harm by her current or former partner [1]. Intimate partner violence is a public health problem at national and global level [2,3]. A multi-country assessment shows that 15% to 71 % of women experience physical, sexual or both violence at their lifetime[4]. Domestic violence is a common and accepted practice in both urban and rural part of Ethiopia. That said, an Ethiopian study elucidated that nearly three out of four (71%) women are subjected to IPV in their lifetime[5]. The prevalence of IPV among pregnant mothers ranged from 13.5% in Uganda to 2 % in Australia[6]. In addition to this a systemic review from African research stated that the overall prevalence of intimate partner violence during pregnancy ranges from 2.3% to 57.1%[7]. In Ethiopia, IPV during pregnancy was found to range from 4% (merely physical violence) to 8% (all forms of IPV)[8,5]. According to 2014 new born action plan global multi partner movement to end preventable still birth, The target was to reduce the magnitude of stillbirth to less than 12 per 1000 births [9]. A study undertaken in 157 countries revealed that the estimated stillbirth rate was 18.4/1000 births. Besides, 2.6 million stillborn babies were delivered in 2015. Almost all of the stillbirths (98%) were occurred in low and middle income countries[9]. Based on the Ethiopia demographic health Survey data 2016, perinatal mortality rate is 33 per 1000 pregnancies[8]. The risk of IPV is high among women of reproductive age and this is mainly attributed to changes in physical, social, emotional or financial needs during pregnancy. Therefore, pregnancy puts a woman at greater vulnerability to intimate partner violence [10]. Consequently, IPV during pregnancy worsens maternal condition and predisposes to adverse fetal and neonatal outcomes [11,12]. Nevertheless, some researchers concluded that there is a statistically significant association of IPV during pregnancy and stillbirth [3,13] whereas other study indicated no association[5]. This difference might be owing to the fact that many cases of IPV are being overlooked and underreported in Africa; however in our country there is lack data especially there is no data in study area in particular. Even though Ethiopia has designed different policies to avert the rate of still birth, yet it is still high. Having problem related to the prevalence of IPV and still birth, this research tries to assess the effect of IPV during pregnancy on still birth in Tigray region. Besides, findings of this research will aid to update the existing knowledge and will have tremendous contribution to policy makers in designing and outlining new strategies and policies.

Methods

Study design and setting

According to 2015 Tigray regional health bureau annual report there are a total of,one specialized hospital, 15 general hospitals, 22 primary hospitals, 204 health centersand 712 health posts and there are three private hospitals. There are 51 specialdoctors, 87 general practitioners, 3092 nurses, 792 midwives in the region. The studywas conducted from November 2017- June 2018. Institutional based cross-sectional study was used.

Data collection

There are 41 hospitals (1 specialized hospital, 15 general hospitals, 22 primaryhospitals and 3 private hospitals) which provide delivery service in the study area;health facilities were stratified in to private and public hospitals. Then 1 privatehospital and 8 public hospitals were selected by simple random sampling technique.Participants from each selected health facilities were sampled by systematic.Afterwards, every 3rd postpartum women were included until the required sample sizeis reached. Besides, consecutive participant was included if the selected participantwas not eligible. Average client load for each hospital was taken from 3 months'client flow prior to data collection period and proportional allocation to each hospitalwas made based on their respective quarterly client flow.The required sample size of the study participants is determined by using Open EpiInfo 3.03 software. The following assumptions are used while calculating the samplesize. Study from Ethiopia about intimate partner violence during pregnancy and lowbirth weight 25.8% [14], 95% confidence interval, margin of error 5%, design effectof 2 and expected non response rate 10%. Based on this the calculated sample size is648.Questionnaire was prepared first in English and then translated into Tigrigna andagain back translated to English by language expert to keep the consistency of thequestioners.Then data was collected through structured questioner from postpartum women andinterviewer administered technique was used. Data on still birth was collected fromchart and mothers. Outcomes of interest for this analysis pertained directly to neonataloutcomes, which was obtained through chart review within 72 hours of delivery. Birthweight (g) and gestational age (weeks) were taken directly from the chart.

Intimate partner violence

Maternal exposure to IPV was determined through thequestion: "when you were pregnant for this child did your current partner orboyfriend do any of the following things to you? The lists of potential offences wereas follows: Physical violence: slapped, pushed or shoved, hit with fist or somethingelse that could hurt her, beaten abdomen Choked or burnt on purpose, used or threatened to use knife, gun or weapon.Emotional violence: insult, humiliation intimidated on purpose, threatened to. Sexualviolence: Forced into sexual intercourse when you did not want, had sexualintercourse when you did not want to because she was afraid of what partner mightdo, forced to do something sexual that you found degrading or humiliating.

Stillbirth

Is typically defined as fetal death at or after 28 weeks of pregnancy. Itresults in a baby born without signs of life.

Data process and analysis

Double data entry was done by using EPI Info 2008 and exported to SPSS version 20software package for analysis. Experience of any physical, sexual or emotionalviolence was considered if a woman reported being exposed to at least one of the actsof violence exerted by her partner while she was a pregnant for current neonate.In preparation for bivariate and multivariable logistic regression, outcome variablewas coded as dichotomous: still birth (1 = yes and 0 = no). To estimate the associationbetween maternal exposure to intimate partner violence and risk of still birth, logisticregression analyses were performed and odds ratios (OR) with 95% confidenceintervals (CI) were calculated. Multivariable logistic regression analysis wasperformed where intimate partner violence plus other covariates that could influencestill birth such as age, educational level, occupation during pregnancy and alcoholintake were included. The degree of association between independent and dependentvariables were assessed using odds ratio with 95% confidence interval.Permission letter was obtained from regional health office and was presented toselected hospitals. Confidentiality was assured that their responses will not in any waybe linked to them. In addition, they were told they have the right not to participate andwithdraw from the study

Results

Socio-demographic characteristics

A total of 647 participants took part in this study with a response rate of 99.8%.Out ofthe total respondents, 458 (70.78%) of them were urban residents. The mean age ofthe respondents was 27 ± 6 years. Majority of respondents 530(81.9%), were betweenages 20 – 35 years old. Regarding marital status of the mothers, most 610(94.28%)were married. Out of the participants, 301 (46.5%) were house wives (Table 1).

Obstetrics characteristics of the participants

Around one fourth, 155 (24%) of the women were delivered via cesarean section.Similarly, one fourth of the women (25%) had experienced premature rupture ofmembrane and 66 (10.2%) women's pregnancy was complicated by hypertension.Again 35 (5.4%) women have antepartum hemorrhage (APH). From all womendelivered in the study hospitals 611(94.4%) women have antenatal care (ANC) followup for their last baby. Furthermore, 42 (6.5%) postpartum women's pregnancy wasunwanted. Again 70 (10.8%) women were delivered before term and 120 (18.5)babies were low birth weight. The magnitude of still birth in this study was 23 (3.6%).Alongside with this; among the neonates born alive, around 82 (12.7%) of them hadlow (5th minute) Apgar score (Table 2).

Types of intimate partner violence

Pertaining to intimate partner violence, around 47 (7.3%) women experiencedintimate partner violence during their last pregnancy in which 22 of them weresubjected to physical violence, 39 of them experienced sexual violence and theremaining 8 women were subjected to psychological violence.

Factors associated with still birth

Statistical analysis was employed to see if IPV during pregnancy was associated withstillbirth. As a result, there was a significant association between IPV duringpregnancy and stillbirth. This is evidenced by the finding that women who weresubjected to intimate partner violence during pregnancy are 3 times [95%CI] morelikely to have stillborn baby than who did not experience IPV during pregnancy.In addition to this low birth weight also has significant association with still birth.Babies with low birth weight have 16.7(95%CI:(6-46)) times risk of still birth ascompared with babies' weight greater than or equal to 2.5kg. Having unwantedpregnancy and preterm birth were significant associated with still birth in bivariateanalysis but is has no association in multivariate analysis (Table 3).

Discussion

This study revealed that the magnitude of intimate partner violence during their lastpregnancy was 7.3%. This result is higher than the study done in city of New YorkCity (3.7%) [15]. But it is lower than study done in Tanzania (30%), Vietnam(32.5%) and Ethiopia hosanna (23%) [16,12,5]. These disparities in the reported prevalence rates might be attributed to study area and methodology difference.In this study the prevalence of still birth was found to be 3.6%. This finding is similarwith the findings from Tanzania and Zimbabwe, where 3.5% and 5.6% of women hadstill birth respectively[17,18]. But this study finding is higher than study conducted incentral Vietnam (0.097%) and 2014 newborn action plan (1.2%)[19, 9]. Thisdifference might probably be accounted by study area difference or difference inaccessibility to prenatal or emergency obstetric care services. In contrary, reportsfrom EDHS 2016 showed that perinatal mortality rate was 33 per 1000 pregnancies.However, EDHS report included early neonatal death, which is not assessed in thisstudy. Besides, this study was employed in general hospitals which also provideservices to referred cases[8].This study found that IPV has significant association with still birth. This finding is inline with a research done in Latin America and Caribbean region in which womensubjected to IPV during pregnancy increased the risk of stillbirth when compared withwomen who were not subjected to IPV [3]. Moreover; study from residents ofVancouver British Columbia, supported this study, women exposed to physicalviolence were eight times more likely to experience perinatal death[13].Similarly, another study done in Columbia, South Carolina and California indicatedthat women experienced IPV during pregnancy increased the risk of stillbirth[20,21]. Different studies signposted that IPV has significant association withstill birth. Due to the fact that women who exposed to IPV affect the woman bothphysically and mentally and can lead to still birth either by directly (trauma) orindirectly mechanisms (decrease nutritional intake due to angry).In this study still birth has association with low birth weight. Babies delivered withlow birth weight increased the risk of still birth by sixteen times. This

finding issupported by research done in north Tanzania and peri-urban District in Ghana ; beinglow birth weight increase the risk of still birth by more than nine times[17,22]. Fetuswith low weight may have a high risk of death due to their immature respiratorysystem[17].

Conclusions And Recommendations

This study showed that still birth was high and intimate partner violence duringpregnancy has significant association with increased risk of still birth. Federalminster of health should design a protocol to prevent and screen intimate partnerviolence during pregnancy to reduce still birth.

Recommendation

Every health professional working with maternal health should screening pregnantmother for IPV.

Declarations

Ethics approval and consent to participate

An ethical approval for the study was obtained from Mekelle University College of

health science health research ethics review committee. The study subjects provided

written consent to participate in the study after receiving information about the purpose

of the study, risks and benefits, and their rights. For under age participants provided written consent from their parents.

Availability of data and material

The data available and possible submit as needed

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Consent for publication

Not applicable

Competing interests

There is no competing of interest for this research.

Authors' contribution

KZG: participated in title selection, proposal development, tool development and data collection and analysis manuscript writing.

SW: participated in title selection, proposal development, tool development and data

collection and analysis manuscript writing.

MM: participated in proposal development, data collection and manuscript writing

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Tables

Table: 1. Socio-Demographic characteristics of respondents, Tigray, North, Ethiopia, 2018

Variable		Frequency	Percent
Residence	Urban	458	70.78
	Rural	189	29.22
Age	≤19	50	7.7
	20-34	530	82
	≥35	67	10.3
Religion	Orthodox	581	89.8
	Muslim	66	10.2
Educational Status	Unable to read &write	108	16.7
	Read and write	44	6.8
	Primary education	175	27
	Secondary education and college	211	32.6
	Diploma and above	109	16.8
Marital Status	Married	610	94.3
	Single	37	5.7
Occupational status	Housewife	301	46.5
	Merchant	71	11
	Farmer	127	19.6
	Private employee	42	6.5
	Governmental employee	95	14.7
	Others	11	1.7

Table: 2. Obstetrics characteristics of respondents, Tigray, North, Ethiopia, 2018

Variable		Frequency	Percentage
Mode of delivery	Vaginal	492	76
	C/S	155	24
PROM	Yes	162	25
	No	485	75
Hypertension	Yes	66	10.2
	No	581	89.8
APH	Yes	35	5.4
	No	612	94.6
ANC follow up	Yes	611	94.4
	No	36	5.6
Still birth	Yes	23	3.6
	No	624	96.4
Apgar score	Less than 7	82	12.7
	greater than or equal to 7	565	87.3
Pregnancy wanted	Yes	605	93.5
	No	42	6.5
Preterm delivery	Yes	70	10.8
	No	577	89.2
Low birth weight	Yes	120	18.5
	No	527	81.5

Table:3. Bivariate and multivariate logistic regression analyses of still birth by socio demographic variables, obstetrics related variables and intimate partner violence during pregnancy

Variables		Still birth		COR(95% CI)	AOR(95%CI)
		Yes	No		
Marital status	Marriage	20	590	.38(0.109-1.35)	
	Single	3	34	1:00	
Resident	Urban	13	445	.52(0.22-1.2)	
	Rural	10	179	1:00	
Religion	Orthodox	21	560	1.2(0.27-5.2)	
	Muslim	2	64	1:00	
Age	>19	4	46	1.37(.32-5.7)	
	20-35	15	515	.45(0.14-1.4)	
	>35	4	63	1:00	
IPV	Yes	6	41	5(1.87-13.4)	3.3(1.1-9.7)
	No	17	583	1:00	1:00
Hypertension	Yes	2	64	.83(0.19-3.6)	
	No	21	560	1:00	
APH	Yes	3	32	2.77(0.78-9.8)	
	No	20	592	1:00	
PROM	Yes	4	158	.62(0.2-1.8)	
	No	19	466	1:00	
Habit of alcohol intake	Never	13	346	1.04(0.45-2.4)	
	Sometimes	10	278	1:00	
Pregnancy wanted	Yes	19	586	1:00	
	No	4	38	3.24(1.05-10)	2.3(0.72-7.7)
ANC follow up	Yes	22	589	1.3(0.17-9.9)	
	No	1	35	1:00	
Birth weight	>=2.5kg	5	522	1:00	1:00
	<2.5kg	18	102	18.4(6.6-50.7)	16.7(6-46)
Gestational age	>=37 week	13	564	1:00	
	<37 week	10	60	7.23(3-17)	