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Research Article

Impact of Intimate Partner Violence During Pregnancy on Birth Outcomes in Southwest Ethiopia: A Prospective Cohort Study

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Abstract

Background: Intimate partner violence (IPV) during pregnancy is a widespread public health problem with serious implications for maternal and neonatal outcomes. Evidence remains limited regarding its impact on birth outcomes in low- resource settings such as Ethiopia.

Methods: A prospective cohort study was conducted at Jimma Medical Center from February to June 2024. Pregnant women between 20 and 28 weeks' gestation were enrolled and followed until delivery. IPV exposure was assessed using the WHO Violence Against Women instrument. Outcomes included 5-minute Apgar score, birth weight, preterm delivery, and stillbirth. Multivariable Poisson regression was used to estimate adjusted associations.

Results: Among 219 participants, 32% reported IPV during pregnancy. After adjusting for confounders, IPV was significantly associated with a lower 5-minute Apgar score (β = −2.183; 95% CI: −4.151 to −0.214). No significant associations were observed with other birth outcomes.

Conclusion: IPV during pregnancy is common and associated with impaired neonatal condition at birth. Routine screening and supportive interventions during antenatal care are recommended.

Keywords: Intimate Partner Violence; Pregnancy; Birth Outcomes; Apgar Score; Ethiopia

Introduction

Intimate partner violence (IPV) is one of the most pervasive violations of women's human rights globally. Approximately 27% of women aged 15–49 years have experienced physical or sexual IPV in their lifetime. IPV during pregnancy has been associated with adverse maternal and neonatal outcomes, including preterm birth, low birth weight, and neonatal asphyxia.

In Ethiopia, IPV during pregnancy remains highly prevalent, yet evidence on its impact on neonatal outcomes; particularly psychological and sexual violence is limited. This study aimed to assess the prevalence of IPV during pregnancy and its association with selected birth outcomes in Southwest Ethiopia.

Methods

Study design and setting

A prospective cohort study was conducted from February to June 2024 at Jimma Medical Center, the largest tertiary referral hospital in Southwest Ethiopia.

Study population

Pregnant women between 20 and 28 weeks of gestation attending antenatal care were enrolled. Women with chronic medical illnesses, major fetal anomalies, or a history of adverse obstetric outcomes were excluded.

Assessment of intimate partner violence

IPV was assessed using the WHO Violence Against Women instrument. IPV was defined as exposure to at least one act of psychological, physical, or sexual violence during the current pregnancy. Psychological violence included insults, humiliation, intimidation, threats of harm, or controlling behaviors. Physical violence included slapping, pushing, hitting, kicking, or beating. Sexual violence included forced sexual intercourse or any sexual act performed against the woman's will.

Measures to minimize interviewer bias

Data collectors received standardized training on the administration of the WHO IPV questionnaire, ethical interviewing techniques, and non-judgmental communication. Interviews were conducted in private settings using standardized wording. Regular supervision and cross-checking of completed questionnaires were undertaken to ensure data quality and consistency.

Outcome measures

The primary outcome was the 5-minute Apgar score. Secondary outcomes included preterm birth (<37 weeks), low birth weight (<2500 g), and stillbirth.

Statistical analysis

Descriptive statistics were computed. Multivariable Poisson regression analysis was used to assess the association between IPV and birth outcomes, adjusting for potential confounders. Statistical significance was set at $p < 0.05$.

Ethical considerations

Ethical approval was obtained from the Institutional Review Board of Jimma University. Written informed consent was obtained from all participants prior to enrollment.

Results

Of the 219 women included, the majority were aged 26–30 years and of Oromo ethnicity. Overall, 32% reported experiencing at least one form of IPV during pregnancy, with psychological violence being the most common.

Birth outcomes included low birth weight (15.1%), preterm delivery (8.2%), stillbirth (5.9%), and low 5-minute Apgar score (<7) in 5% of newborns.

Association between apgar score and mode of delivery

A statistically significant association was observed between mode of delivery and 5- minute Apgar score ($\chi^2 = 6.84$, $p = 0.018$). Among neonates with a low Apgar score (<7), 54.5% were delivered by caesarean section, while 45.5% were delivered vaginally.

Discussion

This study demonstrated that IPV during pregnancy is common in Southwest Ethiopia and is significantly associated with a reduced 5-minute Apgar score. The Apgar score is a non-specific indicator of neonatal well-being and may be influenced by prematurity, congenital anomalies, anesthetic exposure, or perinatal complications. Therefore, the observed association should be interpreted cautiously.

The lack of association between IPV and other birth outcomes may be due to limited statistical power or contextual healthcare factors [1-7].

Apgar score at 5 minutes vs Mode of delivery Crosstabulation					
			Mode of delivery		Total
			Vaginal Delivery	Caesarean section	
Apgar score at 5 minutes	APGAR >=7	Count		43	207
		% within Apgar score at 5 minutes	79.2%	20.8%	100.0%
		% within Mode of delivery	97.0%	87.8%	95.0%
	APGAR < 7	Count	5	6	11
		% within Apgar score at 5 minutes	45.5%	54.5%	100.0%
		% within Mode of delivery	3.0%	12.2%	5.0%
Total		Count	169	49	218
		% within Apgar score at 5 minutes	77.5%	22.5%	100.0%
		% within Mode of delivery	100.0%	100.0%	100.0%

Chi-Square Tests					
	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi- Square	6.837[a]	1	0.009	0.018	0.018
Continuity Correction[b]	5.036	1	0.025		
Likelihood Ratio	5.651	1	0.017	0.074	0.018
Fisher's Exact Test				0.018	0.018
N of Valid Cases	218				

Table 1

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.47.

b. Computed only for a 2x2 table.

The table above shows that there is association between APGAR score and mode of delivery with p value of 0.074. From the neonates who had low 5th minute APGAR score, 45.5% (n = 5) were delivered vaginally whereas 54.5% (n = 6) were delivered by C/S. Though the difference is narrow, there is higher proportion of low 5th minute APGAR score for those delivered by C/S than those who were delivered by spontaneous vaginal delivery.

Conclusion

Intimate partner violence during pregnancy remains a significant public health concern and is associated with impaired neonatal condition at birth. Integrating routine IPV screening and support services into antenatal care is strongly recommended.

Ethics Approval and Consent to Participate

Approved by Jimma University Research Ethics Committee.

Competing Interests

The authors declare no competing interests.

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No external funding was received.

Authors' Contributions

All authors contributed to the conception, analysis, drafting, and approval of the final manuscript.

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