

# Prevalence and Determinants of Intimate Partner Violence Among Antenatal Care Attendees in Case of Adama Hospital Medical College

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**Abstract:** *Background:* Intimate partner violence is one of the most common forms of violence against women and includes physical, sexual and emotional abuse and controlling behaviors by an intimate partner. *Objective:* To assess prevalence and determinants of intimate partner violence among ANC attendees in Adama Hospital Medical College in Adama, Shewa, Ethiopia. *Methods:* Institution based cross sectional study design was conducted from January 01, 2022 to March 15, 2022. A total of 409 pregnant women attending ANC at Adama Hospital Medical College were included in the study by systematic random sampling technique. Data were collected using structured interview-administered questionnaire. Then data were entered and analyzed by SPSS version 25. Binary and multiple logistic regression analysis were done to identify factors associated with intimate partner violence at a p-value of less than 0.05 were considered to declare significance of association. *Result:* The overall prevalence of intimate partner violence during current pregnancy was 167 (40.8%) (95%CI: 36.2–45.7). Psychological/emotional violence (39.9%) was the most common followed by sexual (34.7%), Economic violence (34.7%), Physical (23.2%) and controlling behavior violence (22.4%). The proportion of overlap in all five type of violence accounts 28 (6.8%), overlap in three (physical, sexual and psychological violence) were 72 (17.6%) and overlap in two commonest sexual and psychological violence accounts 115 (28.1%). Among several possible factors: age of women above years 36 years [AOR]: 1.9 (1.05, 3.392), Being rural residence [AOR]: 5.5 (2.96, 10.02), partner Having another partner or wife [AOR]: 3.4 (1.64, 7.1) and undesired pregnancy [AOR]: 13.7 (5.79, 32.3) were determinants of IPV. *Conclusion and Recommendation:* This study determined intimate partner violence was high (40.8%) and also this study identified that overlap by at least two types violence among these population were 28.1%. Among several possible factors: being rural residence, partner having another partner or wife and undesired pregnancy were strong determinants of IPV. Therefore; Addressing gender inequitable norms, the culture of silence (support) to IPV in the community and women's reproductive health information through intervention measures are very important to minimize the problem.

**Keywords:** Intimate Partner Violence, ANC, Prevalence, Adama

## 1. Introduction

As clearly defined by the World Health Organization (WHO), intimate partner violence (IPV) refers to any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship [1, 2]. Violence, according to WHO is “the intentional use of

physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal development or deprivation” [3].

Many of the risk factors for IPV during pregnancy have also been identified generally in IPV studies among women. Some of the factors include socio-demographic risk factors

such as being young or adolescent; single marital status; separated or divorced during pregnancy and low educational status [2, 4, 5]. For example, less education may translate to limited opportunities and increases economic vulnerability leading to some women being abused by partners who may be economically more powerful than them. Adolescents who are usually less mature to handle relationships or marriages may also be economically vulnerable and at risk of submitting to male power and abuse. Other risk factors identified included increased substance and drug use [6]. More over Unintended and unplanned pregnancy is usually blamed on the female partner and could be punished by divorce or threats to divorce in some parts of Africa [4].

Pregnancy may be a time of unique vulnerability to intimate partner violence (IPV) victimization because of changes in women's physical, social, emotional, and economic needs during pregnancy [7]. Intimate partner violence during pregnancy is the most common and major public health problem and human rights issue worldwide and has a negative effect on the lives of both mother and fetus. Worldwide, 35% of women have experienced physical and/or sexual violence by their intimate partner or non-intimate partner violence; 30% of these women have experienced physical and/or sexual violence by their intimate partner in their lifetime [1, 5]. During pregnancy, the prevalence of intimate partner violence ranges from 1 to 28%[1]. Intimate partner violence is a global health issue that poses a greater risk for physical, sexual, and mental health problems and affects all the spheres of women's lives such as self-esteem, productivity, autonomy, capacity to care for themselves and their children, ability to participate in social activities, and even death [8].

There are increasing studies from Africa that report on IPV among pregnant women. A study from Gambia showed 61.8% of pregnant women experience IPV [2], similarly a study from Uganda also showed 56% of married pregnant women experienced some form of IPV [5], the problem of IPV is not limited in Africa but also extends to Ethiopia for instance Abay Chomen district Western Ethiopia 44.5% [9], East Gojjam Zone 46.4% [10] and Debre Markos town health facilities 41.1% [11]. This shows despite a remarkable achievement has been made to end IPV, the problem is still persisting without significant change. As far as our knowledge is concerned there is no previous study conducted in current study setting.

Violence is a complex behavioral phenomenon which takes on many forms across a variety of contexts. Violence can have detrimental effects for those who encounter it, often resulting in bodily harm; mental, physical and emotional suffering; loss of productivity; and fatality, representing an increased burden for social and public health sectors [1, 8]. Intimate partner violence against pregnant women has been significantly associated with adverse maternal health outcomes ranging from unintended pregnancies, pregnancy-related symptom distress, inadequate prenatal care, induced abortion, spontaneous abortion, gestational weight gain, hypertension, pre-eclampsia, third trimester bleeding and sexually transmitted infections. Pregnant women are also at

higher risk of maternal death [6].

According to multi-country study on women's health and domestic violence against women, the lifetime prevalence of physical, sexual, or both physical and sexual violence ranges from 15% (Japan) to 71% (Ethiopia) [1]. Nearly one half (49%) of ever-married women faced physical violence, 59% of them experienced sexual violence, 71% of them had one or the other form of violence, or both, over their life time. About 35% of all ever-married women experienced at least one severe form of violence by a partner [1].

Although there are many indicators that women in Ethiopia suffer disproportionate disadvantages in life as compared to men, there are only few studies to provide evidences to this effect and almost all of them were done in the rural part of Ethiopia, including the WHO multi-country study on VAW and all are mainly focused on the general concept of domestic violence. This study will explore the general magnitude of intimate partner violence with all its components; physical, sexual and emotional and associated factors that can put these women at high risk. This study will be the first of its kind in assessing the magnitude of emotional violence during pregnancy and 12 months before pregnancy in Adama, Oromia, Ethiopia. It will also address attitude of women toward IPV as it will reflect on the level of awareness of the society as a whole concerning violence against women.

As to the best of our knowledge, there was no previous study assessing the magnitude and associated factors of intimate partner violence during pregnancy in current study setting. By taking this into consideration, this study was aimed to assess the prevalence of intimate partner violence and its determinants among pregnant women attending ANC at AHMC, Adama, Oromia, Ethiopia.

## 2. Methods and Materials

### 2.1. Study Area and Period

This study was conducted at AHMC of Adama town, central Ethiopia, 99 km southeast of Addis Ababa. The town has a total population of 287,437 of which 142,233 (49.5%) males and 145,204 (50.5) females (according to 2004 E. C. national census). The area of the town is 29.86 square kilometers, with a population density of 7,374.82; all are urban inhabitants. There are governmental health facilities (1 hospital, 8 health centers), nongovernmental health facilities (5 hospitals, 1 health center, 60 clinics). There are also 61 drug stores 50 pharmacies (Health care berau of Adama town). A total of 60,174 households were counted in this city, which results in an average of 3.66 persons to a household, and 59,431 housing units. In Adama town, there are three teaching referral hospitals of which two are private. There are also other private hospitals, four health centers and many private clinics in the town. This study was conducted in Adama Hospital Medical College, which is staffed with 31 specialists, 15 GPs, 129 Nurses, 25 lab technologist, 24 pharmacists, 11 anesthetics, 26 midwifery, and 5 Health officers. There are also residents in four post-graduation

departments where 21 General surgery residents, 39 OBGYN residents, 7 pediatrics residents, 5 internal medicine residents, and 46 medical interns. Data were collected from November to December 2020.

## 2.2. Study Design

Institution based cross sectional study was conducted on pregnant women who came for ANC follow up in Adama hospital medical college.

## 2.3. Population

### 2.3.1. Source Population

All pregnant women who were come to Adama hospital seeking health care.

### 2.3.2. Study Population

Randomly selected pregnant women who were had ANC follow up in Adama hospitals and have at least one visit during the study period.

### 2.3.3. Inclusion Criteria

Pregnant women attending ANC clinics in Adama hospital who;

1. At least have one visit during the study period
2. Were willing to participate in the study

### 2.3.4. Exclusion Criteria

Women attending ANC clinics in Adama hospital that were severely ill during data collection and had not ANC follow up at Adama Hospital College age range less than 18 years.

## 2.4. Sample Size Determination and Sampling Procedure

### 2.4.1. Sample Size Determination

The sample size was determined using single population proportion formula by taking prevalence of intimate partner violence during pregnancy from Debre Markos town health facilities 41.1% [11]. Using the following assumption of sample size calculation: confidence interval = 95%, Critical value  $Z_{\alpha/2} = 1.96$ , Degree of precision  $d = 0.05$ . The proportion ( $p$ ) = 0.411

$$\text{Using } n = \frac{(Z_{\alpha/2})^2 p(1-p)}{d^2}$$

Where,  $n$ = the required sample size

$Z_{\alpha/2}$ = the standardized normal distribution curve value for the 95% confidence interval (1.96)

$P$ = 41.1%

$d$ = degree of precision (the margin of error between the sample and population, 5%) = 0.05

$$n = \frac{(1.96)^2 (0.411 - (1 - 0.411))}{(0.05)^2}$$

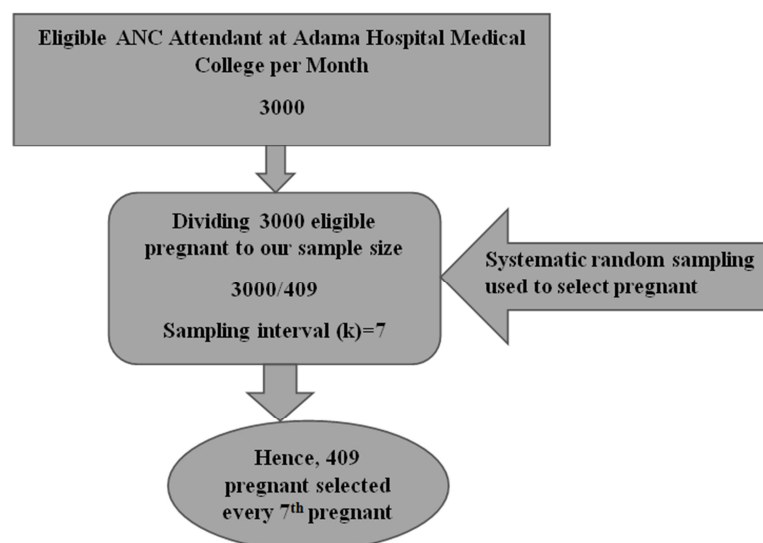
The result from the above calculation was 372. Considering a 10% non-response rate, the total sample size required was 409.

B. To determine the required sample size for the second specific objective was calculated on open Epi software using factors associated with intimate partner violence among pregnant women with the following assumption, 95% confidence interval, 5% margin of error and power of 80% by taking study finding from (table 1).

**Table 1.** Sample size calculation with different variables associated with intimate partner violence among pregnant women.

Factors associated with intimate partner violence among pregnant women	Ratio	AOR	Sample Size	Non Response Rate	Final Sample size
consuming alcohol or drugs;	1: 1	3.69	236	5%	248

The calculated sample size for both objectives and maximum sample size was taken for the final required sample size. Therefore the higher from the two which was 409 was taken to be sample size of the study.



**Figure 1.** Sampling procedure for selection of study participants.

#### 2.4.2. Sampling Procedure

A systematic random sampling was used to select the study participants. The data obtained From AHMC in last consecutive six month showed a total of 3000 pregnant women receive ANC in this hospital per month. Hence by dividing 3000 eligible pregnant to our sample size 409 (3000/409) sampling interval  $k$  of 7 was obtained. From 1 to 7, the first pregnant woman was selected randomly then every 7<sup>th</sup> pregnant women was selected at exit of ANC service by using ANC registration book as a sampling frame. This sampling procedure was carried until the required sample size was achieved.

#### 2.5. Data Collection Procedures

Data were collected by using interviewer administered questionnaire using face to face interview by experienced midwife working at ANC in Adama hospitals. The questionnaire has been translated to Amharic, Afan Oromo and back translated to English by language experts to increase measurement accuracy and to ensure consistency. Training given to data collector and interview techniques and ethical issues were addressed. A pretest study was conducted on 5% of the total sample size to practically acquaint data collectors and few modifications were made on the questionnaire afterwards.

#### 2.6. Study Variable

##### 2.6.1. Dependent Variable

Experience of IPV.

##### 2.6.2. Independent Variables

1. Age
2. Education
3. Occupation
4. Marital status
5. Household income
6. Intimate partner educational status
7. Gestational age at the onset of ANC follow up
8. Index pregnancy planned or not
9. Alcohol consumption by intimate partner

#### 2.7. Operational Definition

In this study, the definition of violence used by World Health Organization (WHO) was adopted. Sexual, physical and emotional violence will be measured for index pregnancy and for 12 months prior to the index pregnancy. Following are the terms used to describe the result in this study;

1. Violence against women is defined as any act of gender-based violence that results in or is likely to result in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liability, whether occurring in public or private life.
2. Current prevalence of violence is the proportion of ever-partnered women reporting at least one act of

physical, sexual and emotional violence during the 12 months before the index pregnancy.

3. Physical violence was measured by the presence of one or more of the following 6 acts (hit, kicked, slapped, pushed, shoved or choked) by her partner.
4. Sexual violence was measured using the question 'have you ever been forced to have sexual intercourse by your partner when you did not want to.'
5. Emotional violence was measured using the question 'have you ever been insulted, humiliated, threatened or made feel bad by your intimate partner.'
6. Experiences of IPV is defined as the proportion of ever-partnered women who reported having experienced one or more acts of physical, sexual or emotional violence by a partner in the given time frame (index pregnancy or during the 12 months prior to the index pregnancy).
7. Ever experienced IPV – one or more episode of any form of violence in the given time frame, i. e. during index pregnancy or one year prior to it.
8. Never experienced IPV – no history of violence in the given time frame.

#### 2.8. Methods of Data Analysis

Data were checked for completeness and entered into Epi info version 7.1 and exported to SPSS version 25 (IBM, New York, USA) for analyses. Binary logistic regression analyses were done to see the association between each independent variable and the outcome variable. Variables were entered into SPSS using a backward stepwise multivariable logistic regression to control for all possible confounders and to identify determinants of IPV. P-value 0.25 was used as a cutoff point to select candidate variables of the final model to improve the chances of retaining meaningful confounders. The adjusted odds ratios with its 95% confidence interval were estimated to identify determinants of IPV. The level of statistical significance was declared at a p-value <0.05.

#### 2.9. Dissemination Plan

Result of study was disseminated to SMC RH department it was also communicated to AHMC, and East Shewa Health Bureau and Adama Town governmental health services. The finding was presented for final defense. Hard and soft copy was available in the library of SMC for graduate students as well as for other concerned bodies. Finally it was submitted for publication to national and international peer reviewed journals, as deemed necessary.

#### 2.10. Ethical Consideration

Ethical clearance was obtained from the department research and publication committee of Santé Medical College. Before the fieldwork; a support letter were obtained from Santé Medical College; to Adama Hospital Medical College.

Informed verbal consent was obtained from each woman participating in the study and privacy and confidentiality

guaranteed. Identification of study subjects by name was avoided and the collected information was used for the purpose of the study only.

### 3. Result

#### 3.1. Socio-Demographic Characteristics of the Study Participants and Their Partners

A total of 409 pregnant women were included in this study making response rate of 100%. The mean age and standard

deviation of the pregnant women was  $28 \pm 4$  years. Majority, 265 (64.8%) of pregnant women were urban residence. About 333 (81.4%) of the women were married. Regarding educational status, nearly three-fourth (74.8%) of women had attained secondary/ above in their education. In terms of average monthly income, more than half (53.5%) of pregnant women earns average monthly income above 5001 Ethio. birr. In addition about 269 (65.8%) pregnant women partners had no drinking problem while the remaining 34.2% had alcohol drinking problem (Table 2).

**Table 2.** Socio-demographic characteristics of the pregnant women attending ANC at AHMC, Oromia, Ethiopia, 2022 (n=409).

Variables	Category	Frequency	Percent (%)
Age category	18-25 years	97	23.7
	26-35 years	290	70.9
	Above 36 years	22	5.4
Residence	Urban	265	64.8
	Rural	144	35.2
Educational status of women	No formal education	29	7.1
	Primary education	74	18.1
	Secondary and above	306	74.8
Educational status of partner	No formal education	19	4.6
	Primary education	32	7.8
	Secondary and above	358	87.5
Average monthly income of parents	$\leq$ 5000 ethio.birr	190	46.5
	>5001 ethio.birr	219	53.5
Relationship with the partner in current pregnancy	Married	333	81.4
	Cohabiting (not married)	40	9.8
	Boyfriend (not cohabiting)	25	6.1
partner have a drinking problem	No	269	65.8
	Yes	140	34.2
currently living with partner	No	117	28.6
	Yes	292	71.4
Having another wife (by partner)	No	309	75.6
	Yes	100	24.4

#### 3.2. Reproductive Characteristics of Pregnant Women

Among pregnant women included in the study, more than three-fourth (76.3%) had planned pregnancy. Regarding their parity, more than half (52.6%) were nulliparous. In terms of gravidity, nearly two-third (61.6%) of pregnant women was multigravida. Moreover about 201 (49.1%) of pregnant women had ANC follow up in the first trimester (Table 3).

**Table 3.** Reproductive characteristics of pregnant women attending ANC at AHMC, Adama, Oromia, Ethiopia, 2022 (n=409).

Variables	Category	Frequency	Percent (%)
current pregnancy	No	97	23.7
	Yes	312	76.3
Parity	Nulliparous	215	52.6
	Multiparous	194	47.4
Gravidity	Primigravida	157	38.4
	Multigravida	252	61.6
First ANC Initiation	First trimester	201	49.1
	Second trimester	135	33.0
	Third trimester	73	17.8

#### 3.3. Prevalence and Forms of Intimate Partner Violence During Pregnancy

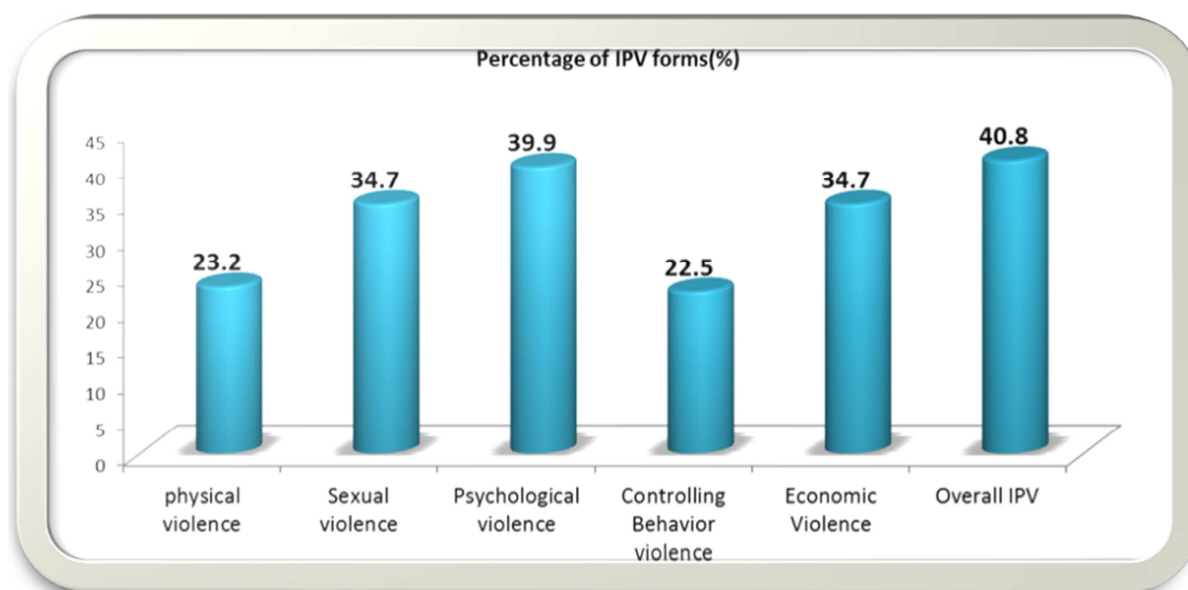
In this study, the overall prevalence of intimate partner violence during current pregnancy was 167 (40.8%) (95% CI: 36.2–45.7). Of this, the prevalence of Physical, sexual, Psychological/emotional, controlling behavior and Economic violence accounts about 23.2%, 34.7%, 39.9%, 22.5% and 34.7% respectively (Figure 2 and Table 4). Regarding the frequencies of violence toward each item, slapping 95 (23.2%) was the commonest form of violence among physical violence (forms). Having unwanted sexual intercourse because of fear of the partner 139 (34.0%) and insulting 163 (39.9%) were commonest form of sexual and psychological/emotional violence respectively. In terms of controlling behavior and economic violence, Suspicious of partner being unfaithful 89 (21.8%) and refusing to give you money for household 142 (34.7%) were the most common forms of controlling behavior and economic violence respectively for detailed description look at (Table 4).

The proportion of overlap in all five type of violence

accounts 28 (6.8%), overlap in three (physical, sexual and psychological violence) were 72 (17.6%) and overlap in two commonest sexual and psychological violence accounts 115 (28.1%).

**Table 4.** Prevalence of intimate partner violence among pregnant women in Attending ANC at AHMC, Adama, Oromia, Ethiopia, March, 2022 (n = 409).

Violence item	Yes		No	
	Frequency (N)	Percent (%)	Frequency (N)	Percent (%)
Physical violence				
Slaps you or throws thing at you that could hurt you	95	23.2	314	76.8
Pushes you or shoves you or pulls your hair	88	21.5	321	78.5
Hitting with his fist or something that could hurt	88	21.5	321	78.5
Kicking, dragging or beating up of abdomen	79	19.3	330	80.7
Choking or burning on purpose	55	13.4	354	86.6
Threatening to use or actually using a gun, knife or other weapon	84	20.5	325	79.5
Overall physical violence	95	23.2	314	76.8
Sexual violence				
Forced to have sexual intercourse you did not want due to fear of you intimate partner	139	34.0	270	66.0
Forced to have sexual intercourse without your willing	125	30.6	284	69.4
Forced to do something sexual that is degrading or humiliating	115	28.1	294	71.9
Overall sexual violence	142	34.7	267	65.3
Psychological/emotional violence				
Insulted you or made you feel bad about yourself	163	39.9	246	60.1
Belittled or humiliated you in front of others	141	34.5	268	65.5
Done things to scare you or intimidate you	127	31.1	282	68.9
Threatened to hurt you or someone you care	156	38.1	253	61.9
Overall psychological/emotional violence	163	39.9	246	60.1
Controlling behavior related violence				
Tried to keep you from seeing your friends	88	21.5	321	78.5
Tried to restrict contact with family of birth	82	20.0	327	80.0
Insisted on knowing where you are all times	82	20.0	327	80.0
Get angry if you speak with other man	87	21.3	322	78.7
Suspicious that you are unfaithful	89	21.8	320	78.2
Overall controlling behavior violence	92	22.5	317	77.5
Economic Violence				
Taken your earnings or savings from you against your will	113	27.6	296	72.4
Refused to give you money for household, even when he has money for other things	142	34.7	267	65.3
Overall economic violence	142	34.7	267	65.3
Overall Intimate partner violence	167	40.8	242	59.2



**Figure 2.** Prevalence and forms of intimate partner violence during pregnancy at AHMC, Adama, Ethiopia, 2022.

### 3.4. Factors Associated with Intimate Partner Violence During Pregnancy

Binary logistic regression analyses were done to identify factors associated with intimate partner violence during pregnancy. In bi-variable logistic regression, among variables analyzed: age of women <25 years, average monthly income

less than  $\leq 5000$  ethio.birr, Being rural residence, primary educational status of women and their partner, Partner drinking problem, partner Having another partner or wife and undesired pregnancy were significantly associated with Intimate partner violence ( $p < 0.25$ ) (Table 5).

**Table 5.** Factors associated with intimate partner violence among pregnant women attending ANC at AHMC, Adama, Oromia, Ethiopia, 2022.

Variables	Category	Intimate partner violence		COR (95% CI)	value
		Yes	No		
Age category	<25 years	57	40	1.00	
	26-35 years	101	189	2.058 (0.8,5.28)	0.133
	above 36 years	9	13	2.67 (1.67,4.3)*	0.000
Monthly income	$\leq 5000$ ethio.birr	101	89	2.6 (1.75,3.95)*	0.000
	>5001 ethio.birr	66	153	1.00	
Residence	Rural	94	50	4.95 (3.2,7.65)*	0.000
	Urban	73	192	1.00	
Educational status of women	No formal education	20	9	1.52 (0.61,3.78)	0.373
	Primary education	44	30	4.38 (1.9,9.96)*	0.000
	Secondary and above	103	203	1.00	
Educational status of partner	No formal education	13	6	1.7 (0.51,5.56)	0.391
	Primary education	18	14	3.5 (1.3,9.52)*	0.012
	Secondary and above	136	222	1.00	
Partner had drinking problem	Yes	73	67	2.03 (1.34,3.1)*	0.001
	No	94	175	1.00	
Having another partner or wife	Yes	74	26	6.6 (3.98,10.99)*	0.000
	No	93	216	1.00	
Relationship with the partner in current pregnancy	Married	119	214	1.00	
	Cohabiting	25	15	0.334 (.17,1.56)	0.223
	Boyfriend	12	13	0.60 (.27,1.36)	0.999
	Divorced	11	0	0.00 (.02,1.39)	0.373
Parity	Nulliparous	86	129	0.93 (.63,1.38)	0.719
	Multiparous	81	113	1.00	
Gravidity	Primigravida	59	98	0.80 (0.53,1.21)	0.291
	Multigravida	108	144	1.00	
current pregnancy wanted	No	81	16	13.3 (7.4,24.02)*	.000
	Yes	86	226	1.00	

Multivariable logistic regression analyses for Factors associated with IPV.

Among several possible factors that had significant association in binary logistic regression, after fitting those variables into multivariable logistic regression model; age of women above years 36 years [AOR]: 1.9 (1.05, 3.392), Being rural residence [AOR]: 5.5 (2.96, 10.02), partner Having another partner or wife [AOR]: 3.4 (1.64, 7.1) and undesired pregnancy [AOR]: 13.7 (5.79, 32.3) were identify factors associated with intimate partner violence.

The odd of having IPV by husband/intimate partner increased by 2 fold among pregnant women whose age were above 36 years as compared to those pregnant women whose

age were <25 years [AOR]: 1.9 (1.05, 3.392)]. Similarly, pregnant women who were from rural residences 6 times more likely experienced IPV during pregnancy as compared to those pregnant women in urban residences [AOR]: 5.5 (2.96, 10.02)]. Moreover our study finding showed that the odd off IPV increased by 3 fold among pregnant women whose husband had another partner/wife as compared to those that did not [AOR]: 3.4 (1.64, 7.1)]. Lastly, our study showed that the odd off experiencing IPV 14 times more likely higher among pregnant women with undesired pregnancy as compared to those pregnant women with desired pregnancy [AOR]: 13.7 (5.79, 32.3)] (Table 6).

**Table 6.** Factors associated with intimate partner violence by multiple logistic Regressions among pregnant women attending ANC at AHMC, Adama, Oromia, Ethiopia, 2022.

Variables	Category	Intimate partner violence		COR (95% CI)	AOR (95% CI)	p. value
		Yes	No			
Age category	<25 years	57	40	1.00	1.00	
	26-35 years	101	189	2.058 (0.8,5.28)	0.37 (0.12,1.123)	0.079
	above 36 years	9	13	2.67 (1.67,4.3)	1.9 (1.05,3.392)	0.033
Residence	Rural	94	50	4.95 (3.2,7.65)	5.5 (2.96,10.02)	0.000
	Urban	73	192	1.00	1.00	

Variables	Category	Intimate partner violence		COR (95% CI)	AOR (95% CI)	p. value
		Yes	No			
Having another partner or wife	Yes	74	26	6.6 (3.98,10.99)	3.4 (1.64,7.1)	0.001
	No	93	216	1.00	1.00	
current pregnancy wanted	No	81	16	13.3 (7.4,24.02)	13.7 (5.79,32.3)	0.000
	Yes	86	226	1.00	1: 00	

AOR; Adjusted odd ratio, 1.00 refers reference category

## 4. Discussion

Intimate partner violence during pregnancy is the serious form of violence that negatively affects the health of women and the fetus she bears. This study demonstrated that the overall prevalence of intimate partner violence during recent pregnancy was found to be 167 (40.8%) (95% CI: 36.2–45.7). Of this, the prevalence of Physical, sexual, Psychological/emotional, controlling behavior and Economic violence accounts about 23.2%, 34.7%, 39.9%, 22.5% and 34.7% respectively. The proportion of overlap in all five type of violence accounts 28 (6.8%), overlap in three (physical, sexual and psychological violence) were 72 (17.6%) and overlap in at least two commonest forms sexual and psychological violence accounts 115 (28.1%). Among several possible factors: age of women above years 36 years, Being rural residence, partner having another partner or wife and undesired pregnancy were identified factors associated with IPV.

In this study, the overall prevalence of IPV among pregnant women found to be 40.8%. This finding is lower as compared to studies Northern Cyprus 68% [12], Gambia 62% [13], Abuja Teaching Hospital in Nigeria 56.3% [14], Oyo state in Nigeria 72.0% [15], Maputo city of Mozambique was 70.2% [16], Uganda 56% [5], West Pokot county of Kenya 66.9% [17], East Gojjam zone 46.4% [10] and Bale zone 59.0% [18]. The possible justification for lower magnitude of IPV in the current study may be attributed to the differences in culture, social norms, and implementation of laws that prevent violence against women [19]. For example, Ethiopian society is highly patriarchal (religious) thus women often feel humiliated and ashamed to disclose violence (most commonly sexual violence) due to fear of negative responses from others within their society because of cultural consequences. Besides, the questions used to assess IPV are culturally sensitive. So, the respondents may not answer such questions honestly. This might lead to underreporting and then low IPV. Another possible reason for the difference might be due to the difference in study designs. For example, a study conducted in Uganda [5], was a community-based study. However, this study was facility based which may miss those women who were not visiting the health facilities for antenatal care services.

The present study however, higher than those studies From Rural Guatemala in USA 3.26% [20], China 7.7% [21], Durban in south Africa 20% [22], Public Health Facilities of Hossana Town 23% [23] and Shire Endaselasie town in Tigray 20.6% [24]. The probable justification for higher prevalence of IPV in current study may because the

respondents were willing to disclose information regarding their experience of IPV. This is most likely due to the fact that the respondents were assured of confidentiality, and were taken into a separate apartment to complete the questionnaires. Thus they had no fear of stigmatization, and did not feel that they were exposing their family affairs to the public. In addition possible explanation for the variation might be due to the difference in the accessibility of information on gender-based issues and reproductive health information and cultures of the study subjects. In addition the disparity could be because the most of the studies only focused assessing three forms of IPV while in our case more than three forms of IPV, including controlling behavior violence and economic violence that likely increases our finding to be higher as compared their finding.

Overall, the possible explanation for the variation may be due to the difference in the definition of IPV used to measure violence as there are lack of standardized definitions and lack of tools to diagnose violence, cultural variation among countries, difference in the source population, the study design, the availability of information on sexual and reproductive health issues and accessibility of information on gender-based issues. The current study finding however in line with Kisumu District Hospital in Kenya 37% (25), Abay Chomen district Western Ethiopia 44.5% (9), Oflla District in Tigray 37.5% (29) and Debre Markos town health facilities 41.1% (11). The possible explanations for this similarity may be due almost all studies were facility based studies.

In our study, about 6.8% of the pregnant women faced all the five types of violence while overlap in three (physical, sexual and psychological violence) were 17.6%. Similar finding were reported from bale zone that about 6.7% of the pregnant women faced all the five types of violence while more than one in ten women encountered the three common type of violence (physical, sexual and psychological) [18]. The existence of such similarity probably due to both studies employs similar study design, both studies were facility based studies and both studies utilize validated instrument of WHO multi-country study identify key violence's among pregnant women.

In current study among women with history of IPV, Psychological/emotional violence was the common type of violence 39.9% (95% CI: 35.5–44.7). This finding is consistent with Gambia 43% [13], East gojjam Zone (44.2%) [10] but higher than Kisumu District Hospital in Kenya 29% [25], Public Health Facilities of Hossana Town 20% [23], Oflla District in Tigray (25.1%) [26] and Debre Markos town health 29.1% [11]. The probable justification for such discrepancy may be observed due to lack of awareness, low level of education, society perception on IPV in our study



area.

In this study a woman's age is significantly associated with IPV. Accordingly the odd of having IPV by husband/intimate partner increased by 2 fold among pregnant women whose age were above 36 years as compared to those pregnant women whose age were <25 years [AOR]: 1.9 (1.05, 3.392)]. This finding is consistent with previous studies from Shire Endessillase town in Tigray, systematic study from Ethiopia, Republic of Benin and Namibia reported that there was association of IPV with an increase in age [24, 27–29]. The possible justification for this association could be it could be younger women gaining more power as a result of pursuing education, employment, and economic independence. Additionally as the age of women increases family size also increases which may result in economic crisis and finally end up with spousal disagreement.

In current study residence was significant predictor of IPV among pregnant women noting that. Pregnant women who were from rural residences 6 times more likely experienced IPV during pregnancy as compared to those pregnant women in urban residences [AOR]: 5.5 (2.96, 10.02)]. This finding is supported by previous study done in Shire Endessillase town in Tigray and Debreworkos town health facilities that reported that pregnant women from rural residences experienced IPV during pregnancy as compared to urban residences [11, 24]. This might be due to the fact that women who are from rural residences might not have access to a range of information that deal with women right of equality with their intimate partner, violence reduction mechanisms and may be more influenced by traditional influences.

The present study also showed spouse's having multiple sexual partners/having other wife was significant predictor of IPV during pregnancy. In that odd off IPV increased by 3 fold among pregnant women whose husband had another partner/wife as compared to those that did not [AOR]: 3.4 (1.64, 7.1). Similar findings were reported in a study done by Makayoto et al and Adhena et al that they reported pregnant women whose partners had other sexual partners were higher odd off IPV as compared to women who reported that their partners did not have other sexual partners [25, 26]. A plausible explanation for this association could be the perceived unequal love among the women or neglect of one or more of the spouses resulting in jealousy and tension in the home and thus fuelling IPV. Another explanation is that it is also possible that men in polygamous relationships experience differential levels of attachment towards their spouses and are more likely to abuse those who have become less favored.

In current study, unplanned pregnancy was a significant determinant of IPV during pregnancy. In this regard the odd off experiencing IPV 14 times more likely higher among pregnant women with undesired pregnancy as compared to those pregnant women with desired pregnancy [AOR]: 13.7 (5.79, 32.3)]. This finding is supported by a study carried out with Wang et al, Mammadov et al, Laelago et al, Lencha et al, Adhena et al, and Malan et al all of them reported that IPV had strong association of undesired pregnancy [12, 18, 21, 23,

26, 30]. The explanation for this association might be when pregnancy is unplanned, conflict may be raised between couples and violence may be followed based on this conflict. In addition it may be due to the fear of taking the responsibility to care for both the mother and the newly coming child, or this unplanned pregnancy might be also due to the result of sexual violence.

## 5. Strength and Limitation of Limitation of Study

### 5.1. Strength of Study

1. Response rate 100%
2. randomization
3. The use of validated instrument of WHO multi-country study were used to identify key violence's among pregnant women

### 5.2. Limitation of Study

1. Being cross sectional nature of study it is difficult to establish causes and effect relationships among outcome of interest and explanatory variable.
2. Secondly, there might be under-reporting due to the sensitive nature of intimate partner violence and cultural barriers to disclosing partners' issues to third parties.
3. Since facility base study is means that non-users of antenatal services, who might be the most vulnerable to intimate partner violence, were not included in the sample study.
4. Another limitation of this study is that as the data were collected using an interviewer-administered method the responses are prone to social desirability biases.

## 6. Conclusion and Recommendation

### 6.1. Conclusion

The result of this study identified that intimate partner violence during current pregnancy was found to be high (40.8%) with identified factors increases likelihood of intimate partner violence. Among women with history of IPV, Psychological/emotional violence was the common type of violence followed by sexual violence and Economic violence whereas Physical violence and controlling behavior violence were the least violence that reported by pregnant women. Also this study identified that overlap by at least two types violence among these population were found to be 28.1% Among several possible factors: age of women above years 36 years, Being rural residence, partner Having another partner or wife and undesired pregnancy were independent determinants of IPV.

### 6.2. Recommendation

Based on our findings, we strongly recommend that

community awareness about the consequences and adverse reproductive health outcomes of IPV during pregnancy should be increased. Regional Bureau and health planners like FMOH should integrate screening for IPV into routine ANC program with a particular emphasis during the antenatal care period. This will help in identifying, evaluating, counseling and offering immediate solutions to victims. In order to reduce or end IPV among pregnant women, Adama town health office should design programs that target rural pregnant women. Additionally, health extension workers should be engaged in education, screening, and referral of IPV during pregnancy. We recommend women should use family planning to prevent undesired pregnancy which is source of IPV. Lastly we invite other researchers to undergo longitudinal and community based study on large sample size to assess the attitudes and perceptions of pregnant women towards IPV.

## Author Contributions

Tigist Bedada: Conceptualization and Methodology

Fraol Girma: Data collection

Dereje Bayisa: Writing review & editing of manuscript

Legese Lemma: Data entry, analysis, interpretation and Writing –original draft and developing this manuscript

## Declarations

### *Conflict of Interest*

The authors declare that they have no competing interests.

### *Financial Disclosure*

All the expense for this original study was covered by principal investigators.

### *Ethics Approval and Consent to Participate*

The Sante medical college researches ethics committee reviewed the study protocol and concluded that formal ethical approval was required and give me formal letter to Adama hospital medical college by reference Number (SMC/2596/2022)). All methods were carried out in accordance with relevant guidelines and regulations. All participants provided written informed consent.

### *Availability of Data and Materials*

Original data is available on request.

### *Consent for Publication*

Not applicable.

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