


Prevalence and its predictors of intimate partner violence against pregnant women amid COVID-19 pandemic in Southwest Ethiopia, 2021: A cross-sectional study

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Abstract

Objectives: Preventive measures like staying-at-home and social distancing are among the top strategies on the list to avert the spread of coronavirus disease 2019 and its consequences. However, this strategy brings off another shadow pandemic of intimate partner violence against women, and no study has been done to assess the magnitude of intimate partner violence against pregnant women during the pandemic in Ethiopia. Therefore, this study was aimed to determine the prevalence of intimate partner violence and its predictors in Southwest Ethiopia amid the coronavirus disease 2019 pandemic.

Methods: A community-based cross-sectional study was conducted, from 15 June 2021 to 15 August 2021, on a total of 590 pregnant women recruited by systematic random sampling techniques. Pretested structured questionnaires were used to collect data, and the data were entered using EpiData version 3.1 and analyzed by SPSS version 24. Logistic regression analysis was used to identify predictors of intimate partner violence. Finally, statistical significance was declared at a p -value < 0.05 .

Results: The prevalence of intimate partner violence was 39.2%. Of this, 29.8%, 26.8%, and 22.2% of the pregnant women had experienced physical, sexual, and emotional intimate partner violence, respectively. Being illiterate (adjusted odds ratio = 2.36, 95% confidence interval: 1.33–4.19), having illiterate husbands (adjusted odds ratio = 4.79, 95% confidence interval: 2.69–8.55), household decisions made by the husband alone (adjusted odds ratio = 4.91, 95% confidence interval: 3.74–9.33), and pandemic-induced economic downturns (adjusted odds ratio = 9.03, 95% confidence interval: 5.18–15.98) were the predictors that were significantly associated with intimate partner violence.

Conclusion: The prevalence of intimate partner violence against pregnant women during the coronavirus disease 2019 pandemic has been found to be high in the study area. Thus, more efforts should be tried to integrating intimate partner violence screening in maternal and child healthcare services, and early identification of high-risk individuals, and continuous community-based awareness creation activities are recommended.

Keywords

Violence, predictors, COVID-19, women, Ethiopia

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Introduction

Coronavirus disease 2019 (COVID-19) outbreak was first detected in Wuhan City, Hubei Province, China¹ and declared to be a global pandemic from 11 March 2020 by the World Health Organization (WHO).² Currently, the COVID-19 pandemic is proven to be very devastating and takes attention worldwide.³ Individuals who have chronic medical problems, being at old ages, immunocompromised, and pregnant are

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more likely to develop severe illness once affected by COVID-19.⁴⁻⁷ Even though there is a dearth of evidence about the affliction of pregnant women and the adverse outcomes associated with this pandemic, considering the pregnancy-induced physiological changes in the immune system and its relative suppression, as well as cardiopulmonary changes during pregnancy, pregnant women are more at risk of infectious diseases and respiratory viruses.⁸ Pregnant women and their families are exposed to anxiety and stress due to fear of complications of COVID-19 and change of pregnancy itself.^{7,9} Meanwhile, with the increasing spread of the disease, countries across the world have taken different preventive strategies to mitigate the viral spread and minimize its negative consequences like restriction on population movement, staying at home, closing school and other business areas, universal face mask use, physical distancing, avoiding nonessential indoor spaces, enhanced ventilation, and hand hygiene. However, some of the preventive strategies like movement restriction, staying at home, and closure of the school and other business areas expose the women for other very serious and shadow pandemic, intimate partner violence (IPV).^{8,10-12}

WHO defines IPV as a behavior by an intimate partner or ex-partner that leads to physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse, and controlling behaviors.¹³ This behavior can happen with threats, and deprivation of individual liberty and freedom.¹⁴

Globally, around 27% of women have been exposed to physical and/or sexual violence by an intimate partner in their lifetime,¹³ and the magnitude of lifetime IPV was estimated to be 33% in Africa.¹³ This statement was consolidated by the reports released by the WHO¹⁵ and Centers for Disease Control and Prevention,¹⁶ which stated that COVID-19 pandemic restrictions have created an opportunity for violence against women, and one in four women report experiencing any form of IPV, respectively.

Exposure to IPV during pregnancy is associated with a lot of adverse consequences for the mother, unborn fetus, and newborn baby,¹⁷ for example, women may be exposed to injuries and chronic pain, sexually transmitted infections, traumatic fistulae, pelvic inflammatory diseases, and poor pregnancy outcomes like abortion, low birth weight, preterm birth, and early neonatal death.¹⁸⁻²⁰ IPV has also negative consequences for psychological health like depression, anxiety, posttraumatic stress disorder, and suicide.²¹⁻²⁴ Underutilization of maternal healthcare services,^{25,26} poor parenting,²⁷ drug abuse, and chronic alcohol consumption have also been associated with IPV.

Target 5.2 of the Sustainable Development Goals (SDG) 5 is aimed to eliminate all forms of violence against all women by 2030.²⁸ However, IPV committed by the marital partner has been increasing during the COVID-19 crisis throughout the world, highly in Africa,²⁹⁻³⁵ and negatively impacting progress toward achieving the target set by

SDG.³⁶ A research done by Tabu stated that during the COVID-19 quarantine period, the risk of women's exposure to IPV is higher due to the prolonged period couples have to spend together and their inability to leave home. Also, during the COVID-19 pandemic, following home quarantine, the economy has declined, and with personal crisis such as job loss or serious financial problems, IPV becomes far more common.³⁵ In addition, studies have identified women who have been exposed to economic deprivation, being at a younger age, types of marriage, being illiterate, having illiterate husband, having substance user husband (i.e. alcohol, khat, and cigarette), being housewives, being rural residents, men dominate the economic and decision-making power in the family, and supportive attitudes toward IPV in the community as the commonest predictors for IPV amid the COVID-19 pandemic restrictions.^{31,37-40} Pregnancy-related variables like antenatal care utilization, current pregnancy desired by husband (desired or not), and bad obstetrics history are also revealed to be associated with IPV.^{39,41,42}

Ethiopia has been responding for the COVID-19 pandemic by applying different preventive strategies, for instance, closure of the school and crowded business areas, staying at home, social distancing, universal face mask use, appropriate hand hygiene, and enacting a state of emergency.^{28,43,44} However, some of these preventive strategies fueled up IPV against women.^{37,45-47} Despite the increasing report of IPV against women amid the COVID-19 pandemic,^{29,30,35,48} there is a dearth of evidence about the prevalence of IPV and its predictors among pregnant women in the country, in general, and in Southwest Ethiopia, in particular. In addition, the previously conducted country-side studies miss some important variables like pandemic-induced economic downturns. Therefore, this study was aimed to assess the prevalence of IPV and its predictors among pregnant women amid the COVID-19 pandemic in Southwest Ethiopia that is of paramount importance for policymakers, program planners, implementers, and other concerned stakeholders who are interested to take part in the prevention of IPV and to achieve the SDG No. 5, target 5.2 of eliminating violence against women by 2030.

Method and materials

Study design, setting, and period

A community-based cross-sectional study was implemented among pregnant women from 15 June 2021 to 15 August 2021 in the Bench Sheko zone, which is located 561 km away from Addis Ababa, the capital city of Ethiopia, in the Southwest direction. Based on the population projection done by the Central Statistical Agency for 2014-2017, the zone had a total population of 847,168, of whom 429,417 were females.⁴⁹ The expected number of households in the zone was about 169,284, and the primary health service

coverage of the zone was 92.6% covering a total catchment area of 19, 965.8 km² with the majority of the population being rural residents. The zone incorporates 1 town administration (Mizan–Aman), 6 woredas (districts), and 246 kebeles (smallest administrative units) (229 rural and 17 urban). The zone has 2 hospitals, 26 health centers, and 182 health posts.⁵⁰

Population

All pregnant women who lived at the Bench Sheko zone in the year 2021 were the source population, and all pregnant women who lived at the selected district during the data collection periods were the study population. All pregnant women who lived in the district for at least 6 months before the study period were included in the study, whereas pregnant women who were unable to communicate due to physical and/or mental illness during the study time and those who were not currently living with an intimate partner were excluded.

Sample size determination and sampling techniques

The sample size was estimated using single population proportion formula, $n = (Z_{\alpha/2})^2 P(1-P)/(d^2)$.⁵¹ Considering the 37.5% prevalence of IPV in Tigray, Ethiopia,⁵² the use of a 95% confidence interval (CI), a 5% margin error (d),⁵³ and a design effect of 1.5 was considered since the study employed a multistage sampling technique and a 10% buffer for nonresponse rate was added. The final sample size was estimated to be 594.

A multistage random sampling technique was applied. Initially, by using the lottery method, two woredas (districts) (Debub Bench and Semen Bench) and Mizan–Aman town administrations were selected. Then, two kebeles (smallest administrative units) were selected from each respective district and a total of six kebeles were incorporated. Then, a sample frame was prepared in all six selected kebeles to identify women who fulfill the inclusion criteria by having registered the pregnant women from the family folder which was found from health extension workers and the one-to-five networks. Based on the sample frame, house-to-house observation was conducted with their corresponding household identification number. Then, the proportional to size allocation technique was employed to determine the study participants from each kebele. Finally, women who were pregnant by the time of the data collection period were selected using a systematic random sampling technique from the existed sample frame (every K th). (i.e. $K = N/n$, where N is the total study population in each selected kebele and n is the allocated sample size of each kebele). If the participant in the selected household was not present at the time of data collection, three revisits were made to interview the woman, and if the interviewers failed to find the study participant after three visits, the next

pregnant woman was included in the study. One mother was selected by lottery method when there were two or more participants existed in one household.

Data collection tools and techniques

The data were collected by a standardized, structured, and pretested interviewer-administered questionnaire, adapted from other studies done to assess the reliability of the tools for the assessment of domestic violence against women in low-income country settings,⁵⁴ Ethiopia Demographic and Health Survey (EDHS) 2016,⁵⁵ and WHO 2005⁵⁶ Multi-Country Violence Against Women assessment tools with some contextual modifications (S1 supplementary file). Six health extension workers and three BSc midwives who were familiar with the local language and customs were recruited for the position of data collectors and supervisors, respectively. The questionnaire had three parts. The first part includes sociodemographic-related characteristics of women and her husband like age, place of residence, educational status, occupational status, household monthly income, COVID-19 pandemic-induced economic downturns, and current pregnancy planned or not. The second part addressed decision-maker in the household, own and husband's use of a substance (i.e. alcohol, khat, and/or cigarette), type of marriage, and community practices that support IPV against women. The third part assessed IPV during current pregnancy (i.e. physical, emotional, and sexual violence).

Study variables

The dependent variable of the study was IPV (yes/no), in which pregnant women who experienced at least any one of the three types of IPV during current pregnancy (i.e. physical, emotional, or sexual) were classified as entertained IPV amid the COVID-19 pandemic, and the independent variables were sociodemographic characteristics (i.e. own and husbands' age, educational status, occupation, average monthly income), age at first marriage, pregnancy desired, own and husband's use of a substance (i.e. alcohol, khat, and/or cigarette), decision-maker in the household, COVID-19 pandemic-induced economic downturns, and community practices that support IPV against women.

Operational definitions

Intimate partner. A person who has intimate relationship with the women either in the form of marriage or in the form of cohabitation.

Experience of IPV. It was defined when the pregnant women experienced one or more acts of physical, sexual, and/or emotional violence by an intimate partner during her pregnancy.²²

Physical violence. This was screened in which the pregnant women experienced any of the following during the current pregnancy: (a) slapped you or threw something at you that could hurt you; (b) pushed you or shoved you; (c) hit you with his fist or with something else that could hurt you; (d) kicked you, dragged you, or beat you up; (e) choked you or burnt you on purpose; and (f) threatened to use or used a gun, knife, or other weapons against you.^{54–56}

Emotional violence. This was assessed in which the pregnant women entertained any of the following during the current pregnancy: (a) insulted you or made you feel bad about yourself; (b) belittled or humiliated you in front of other people; (c) did things that scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things); and (d) threatened to hurt you or someone you care about.^{54–56}

Sexual violence. This was screened in which the pregnant women experienced any of the following during the current pregnancy: (a) physically forced you to have sexual intercourse even you did not want to, (b) forced you to have sexual intercourse when you were afraid of saying no, and (c) forced you to do something sexual that you found degrading or humiliating.^{54–56}

COVID-19 pandemic-induced economic downturns. This was assessed by asking the respondents whether their monthly family income reduced during the pandemic compared to pre-COVID-19 time, with a dichotomous answer of 0 = *not at all or slightly* and 1 = *moderate to a lot*.³⁸

Data quality assurance

The data quality was ensured during collection, entry, and analysis. The questionnaires were first developed in English and translated to the local language (Amharic), then back to English by language experts to assess its consistency and accuracy. Two days training for the data collectors and supervisors about the overall data collection procedures, the techniques of interviewing, and how to maintain confidentiality of the information gained from the respondents were provided. Personal protective equipment (i.e. facemask and alcohol-based sanitizer) was provided for data collectors and supervisors. The tool was pretested on 5% (30 pregnant women) of the actual sample size in the Kaffa zone, Chena district, which is out of the source population to ensure the clarity of the questionnaire, to check the wording, and to confirm the logical sequence of the questions, and an appropriate modification was made based on the pretest. The principal investigators and supervisors conducted day-to-day on-site supervision during the whole period of data collection. At the end of each day, the supervisors and investigators were reviewed and checked on 10% of the collected questionnaires for completeness and accuracy. Finally, the

error reports were checked after entry to EpiData using each case code.

Statistical analysis

The data were verified for completeness, cleaned, edited, coded, and entered into EpiData version 4.2 and then were exported to SPSS version 24 software for analysis. Descriptive statistics were computed to assess the prevalence of IPV. Bivariate logistic regression analysis was done to examine the crude association of predictors with IPV, and variables having p -value ≤ 0.25 ⁵⁷ were selected as candidates for the multivariable logistic regression analysis to adjust confounders effect. The main assumptions of the logistic regression model (no outliers, multicollinearity, and interaction among independent variables) were checked and fulfilled. Multicollinearity was evaluated using the variance inflation factor (VIF) and all independent variables having VIF with a value up to 5 were tolerated. The fitness of the logistic regression model was evaluated using the Hosmer–Lemeshow statistic and it was fit ($p=0.112$). The presence and strength of association between IPV and the predictors were assessed using adjusted odds ratio (AOR) with a 95% CI. A statistically significant association was declared at p -value < 0.05 . Finally, the results were presented in texts, figures, and tables.

Results

Sociodemographic characteristics of the study participants

In the study, a total of 590 pregnant women have participated with a response rate of 99.3%. Of these, 13.6% (80) were in the age group of 15–19 years, 24.9% (147) were in the age group of 20–24 years, 29.7% (175) were in the age group of 25–29 years, and 31.9% (188) were in the age of 30 years and above. Of the total participants, 334 (56.6%) were rural dwellers, 375 (63.6%) were housewives, 360 (61%) did not attend formal education, 399 (67.6%) of their husbands were farmers, and 202 (34.2%) of the household average monthly income were ≥ 3500 Ethiopian birrs (Table 1).

Behavioral characteristics of study participants

In this study, 62 (10.5%) of the women reported that there was a tolerant attitude toward violence against women in their community, 184 (31.2%) of the women reported that the decision-maker in their households was their husband alone, and 116 (19.5%) of women reported that their husband had another wife. Concerning substance use, 60 (10.2%), 64 (10.8%), and 132 (22.4%) of the husbands drank alcohol, chewed khat, and smoked cigarette, respectively (Table 2).

Table 1. Sociodemographic characteristics of pregnant women at Bench Sheko zone, Southwest Ethiopia, 2021 (n=590).

Variables	Categories	Frequency	Percentage
Residence	Rural	334	56.6
	Urban	256	43.4
Age of women, years	15–19	80	13.6
	20–24	147	24.9
	25–29	175	29.7
	≥30	188	31.9
Occupation of women	Farmer	101	17.1
	Government employee	51	8.6
	Merchant	63	10.7
	Housewife	375	63.6
Educational status of women	Not attend formal education	360	61
	Primary education	113	19.2
	Secondary education and above	117	19.8
Age of husband, in years	<30	124	21
	30–40	300	50.8
	>40	166	28.1
Educational status of husband	Not attend formal education	109	18.5
	Primary education	209	35.4
	Secondary education and above	271	45.9
Occupation of husband	Farmer	399	67.6
	Government employee	81	13.7
	Merchant	90	15.3
	Others ^a	20	3.4
Household average monthly income	< 1500 ETB	155	26.3
	1500–2499 ETB	102	17.3
	2500–3499 ETB	131	22.2
	≥3500 ETB	202	34.2
COVID-19 pandemic-induced economic downturns	Not at all/slightly	463	78.5
	Moderately to a lot	127	21.5

ETB: Ethiopian birr.

^aSelf-employed, daily laborer, student, nongovernmental organization employee.

Table 2. Lifestyle and behavioral characteristics of women and their husbands in Bench Sheko zone, Southwest Ethiopia, 2021 (n=590).

Variables	Categories	Frequency	Percentage
Husbands drank alcohol	No	530	89.8
	Yes	60	10.2
Husbands chewed khat	No	526	89.2
	Yes	64	10.8
Husbands smoked cigarette	No	458	77.6
	Yes	132	22.4
Decision-maker in the household	Husband only	184	31.2
	Wife only	35	5.9
	Together	371	62.9
Community tolerant attitude to women violence	No	528	89.5
	Yes	62	10.5
Types of marriage	Monogamous	474	80.3
	Polygamous	116	19.5

Prevalence of IPV against pregnant women

In the study, the overall prevalence of IPV against pregnant women was 39.3% (95% CI: 35.7–43.2). Of this, 22.2%, 29.8%, and 26.8% of the pregnant women had experienced

emotional, physical, and sexual violence, respectively. The most frequently coexisted IPV was physical and emotional violence, experienced by 38.1% of the study participants. The study also showed that 10% of the women had experienced all three forms of IPV (Figure 1).

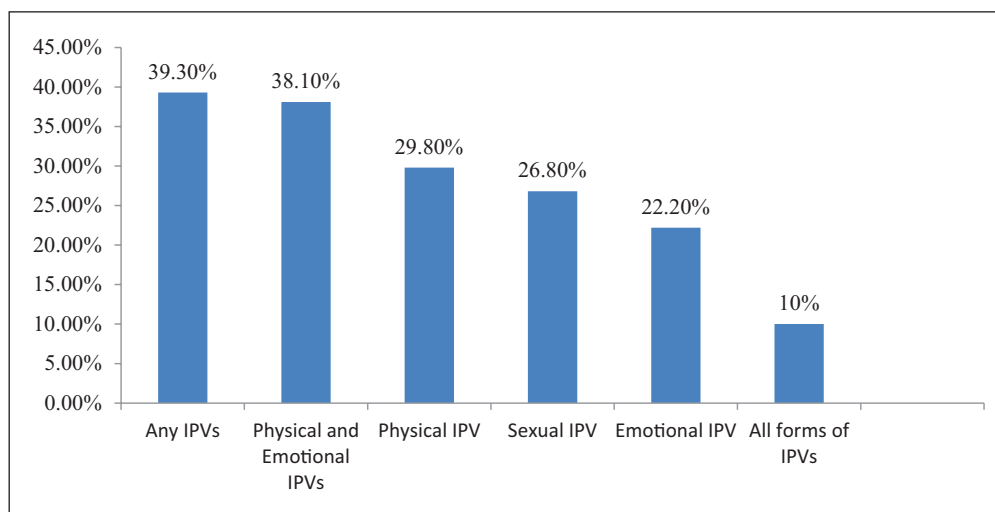


Figure 1. Prevalence and types of intimate partner violence against pregnant women in Bench Sheko zone, Southwest Ethiopia, 2021 ($n=590$).

Predictors of IPV against pregnant women amid COVID-19 pandemic

On the bivariate logistic regression analysis, residence, educational status of women, age of husband, educational status of the husband, husband drank alcohol, husband chewed khat, decision-maker in the household, household average monthly income, COVID-19 pandemic-induced economic downturns, and women living in a community that supports violence against women were associated with IPV at p -value < 0.25 . Of these variables, women's educational status, husband's educational status, household average monthly income, decision-maker in the household, and COVID-19 pandemic-induced economic downturns were significantly associated with IPV on multivariable logistic regression analysis at p -value < 0.05 and 95% CI (Table 3).

In the study, women who did not attend formal education were more likely to experience IPV as compared to those women who had attended secondary and above education (AOR=2.36, 95% CI: 1.33–4.19). Similarly, the odds of experiencing IPV among women who had illiterate husbands were five times more likely than a woman who had a husband who attended secondary and above education (AOR=4.79, 95% CI: 2.69–8.55). The study revealed that those women whose household decision was only made by husband were five times more likely to be exposed for IPV compared to women who made a decision together with their husbands (AOR=4.91, 95% CI: 3.74–9.33). Furthermore, the odds of experiencing IPV among women who were exposed to moderate to a lot COVID-19 pandemic-induced economic downturns were nine times more likely as compared to not at all or slightly (AOR=9.03, 95% CI: 5.18–15.98).

Discussion

Despite the effort tried to eliminate all forms of violence against women globally, the prevalence is alarmingly

increasing amid the COVID-19 pandemic.³⁶ The overall prevalence of IPV against pregnant women amid the COVID-19 pandemic in this study was 39.2% (95% CI: 35.7%–43.2%). This finding was in line with studies conducted in Ethiopia, for example, EDHS report (34%)⁵⁵ and a meta-analysis done by Kassa and Abajobir⁵⁸ (37%). However, the result of this study was higher than studies conducted in Ethiopia like Aksum town (24.6%),⁴⁰ Dessie town (22.4%),³⁹ Wondo Genet district (21%),²² and Eastern Ethiopia (30.5%).⁴² It was also higher than studies done in Nigeria (15.2%)⁵⁹ and the United States (25%).⁶⁰ This divergence might be due to the difference in the sociodemographic characteristics of the respondents, the gaps in the study period,^{22,42} and the differences in the study populations, in which the participants in the previous studies^{39,40} were urban dwellers, whereas 56.6% of the mothers who participated in the current study were rural residents. So, the higher prevalence of IPV reported in this study explains that women who lived in rural areas were more likely to be exposed to various misconceptions held by the community that accepts violence against women as a norm and practiced.^{61,62}

On the other hand, the prevalence of IPV among pregnant women in this study was lower than studies conducted in Ethiopia like Abay Chomen district (44.5%),⁶³ Bale zone (59%),⁶⁴ and Awi zone (78%).⁶⁵ It was also lower than a study done in Kuwait (71%).⁶⁶ This discrepancy might be justified by the gaps in the studies' time frame,^{63–65} and cultural differences of the study participants; for instance, women in Kuwait have been exposed for sociocultural factors,⁶⁷ which increase the risk of IPV like lack of female political and economic participation, discriminatory legal codes, and legal impunity for violence against women and girls.

The study revealed that women who did not attend formal education were three times more likely to experience IPV as compared to those women who had attended secondary and above education. Similarly, the odds of experiencing IPV

Table 3. Bivariate and multivariable analysis of the prevalence and its predictors of intimate partner violence against pregnant women amid COVID-19 pandemic period in Bench Sheko zone, Southwest Ethiopia, 2021 (n=590).

Variable	Categories	Intimate partner violence (n=590)		COR (95% CI)	AOR (95% CI)
		n (%)	Yes (%)		
Residence	Rural	185 (55.4)	149 (44.6)	1.68 (1.20–2.36)	1.10 (0.74, 1.70)
	Urban	173 (67.6)	83 (32.4)		
Educational status of women	Not attend formal education	188 (52.2)	172 (47.8)	2.14 (1.37–3.35)	2.36 (1.33, 4.19)**
	Primary education	88 (77.9)	25 (22.1)	0.67 (0.38–1.21)	0.84 (0.40, 1.75)
	Secondary and above	82 (70.1)	35 (29.9)		
Educational status of husband	Not attend formal education	41 (37.6)	68 (62.4)	3.76 (2.36–5.99)	4.79 (2.69, 8.55)**
	Primary education	129 (61.7)	80 (38.3)	1.40 (0.96–2.05)	1.22 (0.75, 1.97)
	Secondary and above	188 (69.4)	83 (30.6)		
Age of husband, years	<30	85 (68.5)	39 (31.5)		
	30–40	181 (60.3)	119 (39.7)	1.43 (0.92–2.23)	1.29 (0.74, 2.24)
	>40	92 (55.4)	74 (44.6)	1.75 (1.08–2.85)	1.81 (0.99, 3.31)
Husband drank alcohol	No	338 (63.8)	192 (36.2)		
	Yes	20 (33.3)	40 (66.7)	3.52 (2.00–6.20)	1.95 (0.81, 4.72)
Husband chewed khat	No	327 (62.2)	199 (37.8)		
	Yes	31 (48.4)	33 (51.6)	1.75 (1.04–2.95)	0.51 (0.21, 1.21)
Decision-maker in the household	Husband only	58 (31.5)	126 (68.5)	6.59 (4.46–9.73)	4.91 (3.74, 9.33)**
	Wife only	21 (60.0)	14 (40.0)	2.02 (0.99–4.14)	1.95 (0.81, 4.69)
	Together	279 (75.2)	92 (24.8)		
COVID-19 pandemic-induced economic downturns	Not at all or slightly	331 (71.5)	132 (28.5)		
	Moderate to a lot	27 (21.3)	100 (78.7)	9.23 (5.80–14.89)	9.03 (5.18, 15.98)**

COR: crude odds ratio; CI: confidence interval; AOR: adjusted odds ratio; |: reference.

* $p < 0.05$. ** $p \leq 0.01$.

among women who had illiterate husbands were five times more likely than a woman who had a husband who attended secondary and above education. This finding was supported by studies conducted in Ethiopia,^{68–70} Nigeria,⁷¹ Eastern Sudan,⁷² and Zambia.⁷³ This explains that illiterate women may not have the knowledge regarding law enforcement toward legal legislations to fully use their rights, available health services, and refuse harmful societal norms/taboo.^{61,62,74} Besides, illiterate husbands may not aware of the consequences of violent behavior, unable to develop a compromising and caring behavior, and consider violence against women as a norm due to their poor knowledge about the legal rights of their wife/partners. As a result, women being illiterate and having illiterate husbands were more likely to be subjected to IPV as compared to those women who had attended secondary and above education, and had secondary and above educated husbands. However, this finding was not supported by a study conducted in Western Ethiopia,⁶³ which noted that women who had illiterate partners were 50% less likely to experience IPV. In fact, it is difficult to identify the possible reason why women who had illiterate partners were less likely to be exposed for IPV. But, this could be due to the difference in the sociocultural characteristics of the respondents and identification of this unidentified social capital and cultural norms may need another farther qualitative study.

This study revealed that those women whose household decision was made only by husband were five times more likely to be exposed to IPV compared to those women who made a decision together with their husbands. This study was in agreement with a study done in Western Ethiopia.⁶⁸ This justifies that when men became the only autonomous and empowered to decide in all aspects of the households, it may lead to denial of the rights of women and increase the crime of IPV. Hardly, this is true in the Ethiopian context for which most men are the head of the households.

Furthermore, the odds of experiencing IPV among women who were exposed to moderate to a lot COVID-19 pandemic-induced economic downturns were nine times more likely as compared to not at all or slightly. This finding was in agreement with a study conducted in Bangladesh.³⁸ This could be explained by the fact that women who are exposed to economic downturns are obliged to be dependent on intimate partners, which may open the door for IPV.

The study revealed that there was no statistically significant association between the area of residence and experiencing IPV. This finding was not supported by studies done in Ethiopia.^{39,42} This difference might be justified by the difference in sociodemographic characteristics of the study participants and the gaps in the study's period.

The study had many strengths: for instance, it was a community-based research, has a fairly large sample size, a good

response rate, and used a validated and standardized tool to assess IPV. Thus, the findings of the study give a good estimate of the burden of the problem in the study area. Yet, we would like to assure our reader that few limitations are needed to take into account. As a cross-sectional study, the exact cause–effect relationship between IPV and its predictors does not exist, and recall bias might be introduced. The other limitation was the study failed to assess some important variables like the duration of marriage. Finally, due to the sensitive nature of the problem, it was prone to social desirability bias. To minimize this limitation, the confidentiality and anonymity of the participants were assured.

Conclusion

The prevalence of IPV against pregnant women during the COVID-19 pandemic has been found to be high in the study area. Four in 10 pregnant women experienced at least one form of IPV. Women who did not attend formal education, who had illiterate husbands, whose household decisions were made only by husbands, and who were exposed to moderate to a lot COVID-19 pandemic-induced economic downturns were the independent predictors of IPV. Therefore, IPV needs due attention at all levels. As a result, the national, regional, and zonal government, as well as other stakeholders working in different areas like healthcare policymakers and Female Rights Watch, needs to be aware of the magnitude of the problem and should try to take appropriate strategies by addressing that identified risk factors be strengthened. Continuous community-based information communication should be provided to create awareness on the negative consequences of IPV against pregnant women which supports the active participation of husbands, religious leaders, and elderly people using multi-sectoral approaches. In addition, screening high-risk people is essential to strengthening the link between the social and the national healthcare system, family laws as well as police investigations to alleviate the high burden of IPV against pregnant women amid the pandemic. Moreover, further qualitative studies will be conducted to explore additional predictors of IPV from different levels especially community and societal level.

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Author contributions

G.F. comprehended and designed the conception of the study. All authors (G.F., M.A., D.G., and Y.N.) contributed to the acquisition of data, analysis, interpretation of the result, and drafting of the article. All authors participated fully in revising the article, have agreed on the journal to which the article will be sent for publication, gave final approval of the version to be published, and agreed to take responsibility for all aspects of the work.

Availability of data and materials

All data and materials related to this article can be available upon reasonable request from the corresponding author.

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Informed consent

Written informed consent was obtained from all subjects and/or the legally authorized representatives of the subjects that were minor prior to study initiation.

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Supplemental material

Supplemental material for this article is available online.

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