

Perinatal intimate partner violence during COVID-19 and its associated factors among postpartum mothers attending newborn immunization in southern Ethiopia, 2021: A cross-sectional study

SAGE Open Medicine

Volume 10: 1–11

© The Author(s) 2022

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/20503121221116671

journals.sagepub.com/home/smo

Alemayehu Sayih Belay¹, Aychew Kassie Gidafie¹ 
and Tesfaye Abera Gudeta² 

Abstract

Objective: This study aimed to assess the prevalence of perinatal intimate partner violence during COVID-19 and its associated factors among postpartum mothers attending newborn immunization in southern Ethiopia, 2021.

Method: A facility-based cross-sectional study was conducted among 657 postpartum mothers from 1 to 30 March 2021 in southern Ethiopia. All postpartum mothers who visited the selected hospitals or health centers for newborn immunization and met the inclusion criteria were included in this study. Data were cleaned, coded, entered into Epidata manager version 4.2 and then exported into SPSS version 26 for analysis. Binary and multivariate logistic regression analysis was used.

Results: The prevalence of perinatal intimate partner violence was 62.4%. In this study, income loss due to COVID-19 (adjusted odds ratio: 12.00, 95% confidence interval: 5.60, 25.71, $p < 0.001$) was the strongest factor associated with perinatal intimate partner violence. Young age women (adjusted odds ratio: 5.82, 95% confidence interval: 2.72, 12.46, $p < 0.001$), partner alcohol use (adjusted odds ratio: 2.21, 95% confidence interval: 1.37, 3.56, $p = 0.001$), partner substance use (adjusted odds ratio: 2.07, 95% confidence interval: 1.12, 3.83, $p = 0.021$), and partner relationships (cohabited) (adjusted odds ratio: 1.88, 95% confidence interval: 1.06, 3.34, $p = 0.032$) were also strongly associated with perinatal intimate partner violence.

Conclusion: The prevalence of perinatal intimate partner violence was relatively high. The health of the women should be maintained through empowerment of women and provision of health education in order to minimize prevalence of perinatal intimate partner violence associated with low income, young age, substance use, and cohabited marital status. Future qualitative studies are required to identify the underlying multifactorial reasons for intimate partner violence.

Keywords

Intimate partner violence, perinatal, COVID-19, Ethiopia

Date received: 30 November 2021; accepted: 8 July 2022

Introduction

Intimate partner violence (IPV) is defined as “behaviors exhibited by an intimate partner including physical, sexual, and psychological violence or controlling behaviors that cause physical, sexual, or psychological harm.”¹

Worldwide, about 35% of women were estimated to experience either sexual or physical violence perpetrated by an intimate partner.² The prevalence was even worse in sub-Saharan Africa where women face a wide range of violence both at home and community level. About 46.5% of women in the African region have experienced at least one form of

IPV in their life time.² The overall prevalence of IPV among pregnant women in Ethiopia was 26.1%.³

¹Department of Nursing, College of Medicine and Health Science, Mizan-Tepi University, Mizan Aman, Mizzan, Ethiopia

²Department of Nursing, College of Health Science, Wollegai University, Nekemte, Ethiopia

Corresponding author:

Aychew Kassie Gidafie, Department of Nursing, College of Health Science, Mizan-Tepi University, Mizan Aman, Mizzan, Postal address: 260, Ethiopia.

Email: aychewkassie055@gmail.com



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons

Attribution-NonCommercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).

Perinatal intimate partner violence (P-IPV) is the experience of violence during the perinatal period (a year before pregnancy, during pregnancy, and a year after childbirth).⁴ P-IPV is worth more attention than any other form of lifetime IPV because it is associated with pregnancy related deaths from homicide, suicide, and drug overdose.⁵

Victims of P-IPV and their families experience long-term psychological problems like anxiety, depression and post-traumatic stress disorder, other health problems like physical injury or trauma, and sexually transmitted infections.^{6–8} Evidence has shown that children born to IPV victim mothers during pregnancy will develop internalizing problems and expressive problems such as depression and aggressive behaviors, respectively.⁹

Women with P-IPV are at an increased risk of increased blood pressure, vaginal bleeding, vomiting, premature rupture of membrane, and fetal complications like miscarriage, preterm birth, and intrauterine growth retardation, which were common.^{10–12} Moreover, women victims of IPV are less likely to breastfeed but more likely to discontinue breastfeeding during the postpartum.¹³

The United Nations released an alarming statement regarding the surge of IPV risk across the globe on 27 March 2020.¹⁴ The COVID-19 pandemic has been associated with an increased risk of IPV exposure.^{15,16} Conditions such as movement restrictions, staying home, and school closures may increase the risk of domestic violence against women.^{17–19} Evidence has shown an increase in IPV during public-spirited disasters, and many countries, including high-income countries, have reported an increase in IPV since the COVID-19 pandemic.^{16,17,20–23}

The principle of staying safe by staying at home during COVID-19 pandemic has created a contradiction for the public. The government has called the public to stay at home to minimize the spread of COVID-19; however, this principle has created critical conditions for women with abusive relationships.⁶ For instance, women in abusive relationships with their partners and who spent more time at home were more likely to experience violence from their intimate partners.^{24,25}

Studies have shown that poor socioeconomic status, uneducated, and young women are at an increased risk of IPV.^{20,26,27} Additionally, women who used or whose partners used substances and/or alcohol have reported higher IPV during the COVID-19 pandemic restrictions.^{14,28–31}

Similar strategies have been adopted in Ethiopia to minimize the spread of the COVID-19 pandemic. These include closures of institutions such as schools, work places and recreational places, movement restrictions, establishment of isolation and quarantine centers, and declaration of the state of emergency nationwide.^{32,33}

Despite the increased reports of IPV cases during the ongoing COVID-19 pandemic,^{34–36} there is a paucity of studies conducted to assess the prevalence of P-IPV and its associated factors during the pandemic in Ethiopia. Therefore, the

present study aimed to assess the prevalence and associated factors of P-IPV among postpartum mothers attending newborn immunization at governmental health institution found in southern Ethiopia during the COVID-19 pandemic.

Methods

Study setting and context

This study was conducted at selected governmental health facilities found in the south-west region of Ethiopia. There are five zones in the region, namely, Bench Sheko, Dawro, Keffa, Sheka, and West Omo zone. Three zones were randomly selected for this study, including Bench Sheko, Keffa, and West Omo zones. The Bench Sheko zone has 25 health centers and one teaching hospital, with approximately 800 mothers giving birth each month. The Keffa zone has 44 health centers, one general hospital, and two primary hospitals with an average monthly birth report of 1000, while the West Omo zone has 11 health centers and one primary hospital with an average monthly birth report of 200. Each hospital and health center provided basic healthcare services, including maternal healthcare services and newborn immunization services during the COVID-19 pandemic.

The first confirmed COVID-19 case was reported in Ethiopia on 13 March 2020 and the federal government of Ethiopia declared a national state of emergency on 1 April 2020 for 6 months applicable to all regional governments in the country. As a result, all public institutions (schools, universities, recreational centers, etc.) were closed, and other mandatory public services such as health facilities were run with limited manpower.

Study design and period

A cross-sectional study was employed. Data were collected from 1 to 30 March 2021.

Study population

All postpartum mothers who visited the selected hospitals or health centers for newborn immunization and met the inclusion criteria were included in the study. Mothers were recruited if they met the following inclusion criteria: being pregnant for at least 9 months since the COVID-19 outbreak in Ethiopia and at least 42 days postpartum at the time of the interview, and 18 years of age or older. Mothers who had no intimate partners were excluded because the study was aimed to assess P-IPV during the COVID-19 pandemic restriction period by their intimate partner. Additionally, women unable to hear and severely ill were excluded. Moreover, women who were not permanent resident in the study area were also excluded because they are more prone to mobilize to different places and therefore, they can't represent the population in the study area.

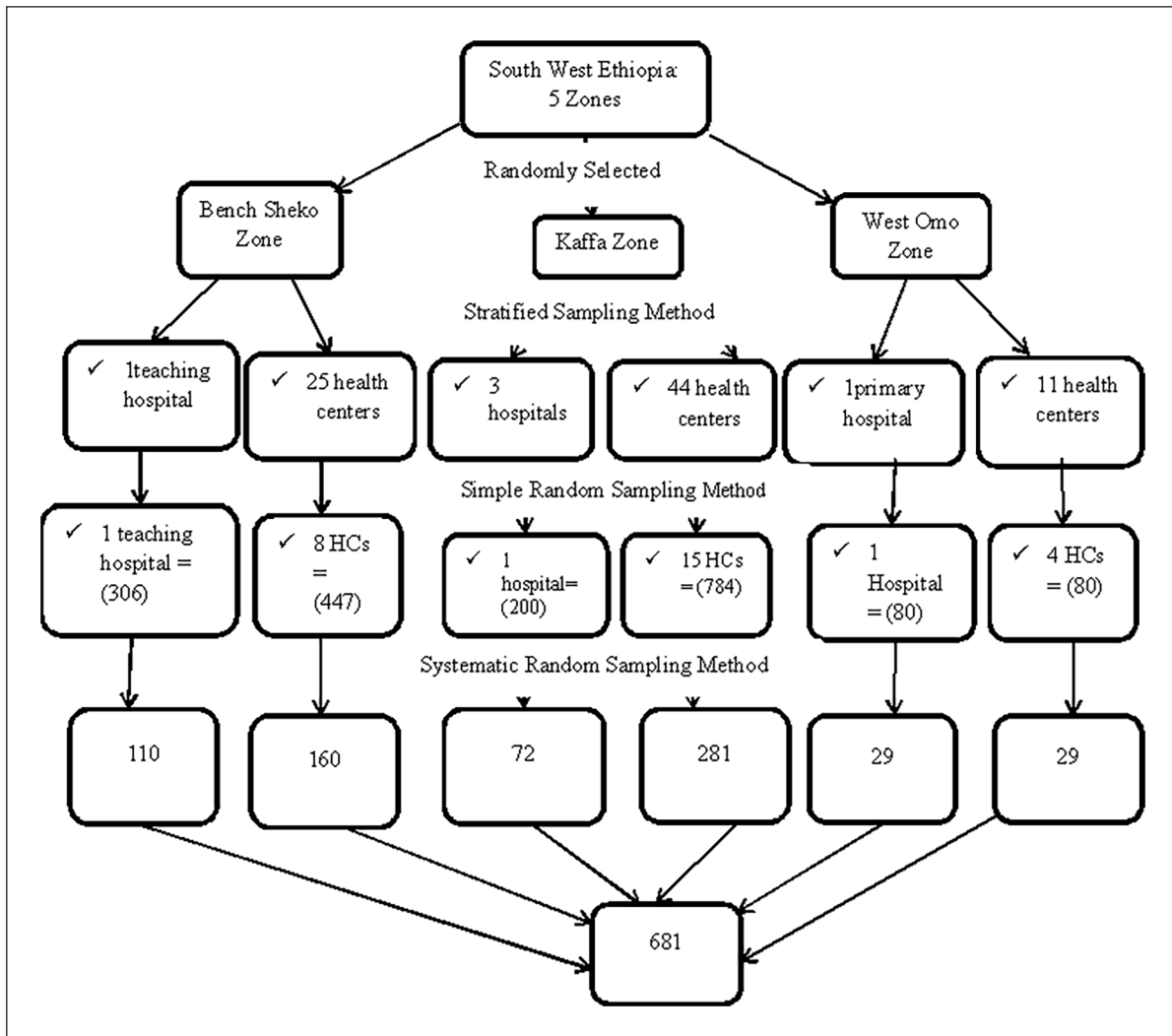


Figure 1. Schematic presentation of sampling procedure to assess the P-IPV during COVID-19 pandemic among postpartum mothers attending newborn immunization in southern Ethiopia, 2021. P-IPV: perinatal intimate partner violence.

Sample size determination

The sample size was determined using a single population proportion formula with the following assumptions; considering 26.1% of women had IPV during pregnancy in Ethiopia,³ 5% marginal error (d), 95% confidence interval (CI), 15% for non-response rate and using a design effect of 2, the final total sample size was 681.

Sampling procedure

Three zones (Bench Sheko, Kaffa, and West Omo) were randomly selected from the total of five zones (Bench Sheko, Sheka, Kaffa, West Omo, and Dawro). The governmental health facilities were stratified into hospitals and health centers. Hospital(s) and health centers were selected from each zone using a simple random sampling method. A 6-month report of

postpartum mothers who visited the selected hospitals and health centers for immunization services (11,382) was taken and the average 1 month report (1897) was calculated. Then, the desired sample size (681) was proportionally allocated to each selected hospital and health center. The sampling interval was calculated by dividing the total number of postpartum mothers who visited hospitals or health centers for newborn immunization services per month by the total sample size (1897/681). Finally, every two mother was included in the study using a systematic random sampling method (Figure 1).

Data collection tools and procedures

A data collection tool was adopted from the WHO standardized questionnaire,³⁷ and developed by reviewing different literatures.^{4,6,23,29,38} The tool consists of sociodemographic, socio-economic and behavioral characteristics of women and their

partners, and various components of IPV (Supplemental Material 1). Face-to-face interview using a structured questionnaire was conducted by two diploma holder midwives and supervised by a BSc holder nurse. The supervisor and data collectors were trained for 2 days regarding the data collection technique, and the aim of the study. A pretest was performed among 5% (34) of eligible women in an unselected health facility. Then, the consistency of the data was checked, and necessary modifications on order, wording, and skipping pattern of the questionnaire and adequacy of variables were made. After the necessary modification of the questionnaires, the actual data collection and supervision were performed by data collectors and supervisors, respectively. Data completeness was checked on a daily basis by the supervisors.

Study variables

Dependent variables: Perinatal intimate partner violence (P-IPV).

Independent variable: Sociodemographic characteristics such as age, residence, level of education, occupation, religion, ethnicity, partner's educational status, partner occupation, income loss, and partner relationship with women and behavioral characteristics such as mother's substance use and mother's alcohol use, and partner's substance use and partner's alcohol use.

Operational definitions and measurements

Perinatal intimate partner violence: In this study, P-IPV is defined as experiences of violence that occur during pregnancy, and within the postpartum period only. It was measured using the WHO tool on violence against women by intimate partners which is validated in low and middle income countries.^{37,39} The tool has a reliable and valid measure of each type of violence. Cronbach alphas for physical violence, sexual violence, and controlling behaviors were 0.81, 0.66, and 0.73, respectively.³⁹ This tool consists of two scales. Scale one comprised of seven items (yes/no) that measured the different forms of regular controlling behavior exhibited by the partner. Scale two comprised of 13 items (yes/no) that measured the act-based forms of IPV including emotional violence (four items), physical violence (six items), and sexual violence (three items). These items were computed and women experiencing any regular controlling behavior or act-based forms of IPV were considered victims of P-IPV.

Permanent resident: If study participants resided in the study area for at least 6 months.

Intimate partner: A male partner who has a relationship with the woman either in the form of marriage, cohabitation, or as a boyfriend.

Drug/substance use: The use of chat, tobacco, shisha, ganja, morphine, and cocaine in their lifetime.

Chat: It (also known as Qat, Kat, Khat, Mirra, Quaadka) is a leafy green plant containing stimulant drugs (cathinone and cathine) which speed up the mind and the body.

Alcohol: The use of beer, wine, and other traditionally fermented alcoholic drinks including "tela," "teji," "areki," "borde," and "shamita" in their lifetime.

Data quality control

A questionnaire was first prepared in English, translated into Amharic, and then back to English to check its consistency. Training was given for data collectors and supervisor. A pretest was also done among 34 postpartum women. Moreover, the collected data were checked daily for completeness by the supervisor, and the overall quality of the data collection process was monitored by the principal investigators.

Statistical analysis

Data were cleaned, coded, entered into Epidata manager version 4.2, and then exported into IBM statistical software for social science (SPSS) version 26 for analysis.⁴⁰ Descriptive analysis was done and the results were presented using frequency tables, figures, and summary measures.

A binary logistic regression analysis was used to assess the association between the outcome variable (P-IPV) and each predictor variable such as age, residence, level of education, marital status, occupation, drug/substance use, alcohol use, and others. Thus, predictor variables with a *p*-value of less than 0.25 were eligible for multivariate logistic regression. Model fitness was also checked using the Hosmer–Lemeshow model fitness test. Finally, multivariable logistic regression analysis was performed to control for potential confounders and identify the factors associated with P-IPV. The strength of the association was determined using adjusted odds ratio (AOR) with 95% CI and the statistical significance level was declared at a *p*-value of less than 0.05.

Results

Sociodemographic and behavioral characteristics of women and their partner

A total of 657 postpartum mothers participated in the study with a response rate of 96.47%. The median age of the study participants was 26 years with an interquartile range (IQR) of 12 years. More than half of the study participants, 407 (61.9%) were urban residents, and about one-fourth, 169 (25.7%) completed primary school education. Concerning the marital status, more than three-fourth, 513 (78.1%) were husbands. The median and IQR of monthly income of study participant were 2000 Ethiopian birr (ETB) and 4500 ETB, respectively. Of the total study participant, about 400 (60.9%) of women replied that partners used drug or substance. About 293 (44.6%) of partners and 14 (2.1%) of women used alcohol (Table 1).

Table 1. General characteristics of study participants who have given birth during COVID-19 in south-west Ethiopia, 2021 (n=657).

List of variables	Variable category	Frequency	Percentage
Age of women in years	≤24	233	35.5
	25–29	253	38.5
	30–34	103	15.7
	≥35	68	10.3
	Median (IQR) age in years	26 (12)	
Residence	Urban	407	61.9
	Rural	250	38.1
Women educational status	Cannot read and write	131	19.9
	Can read and write	108	16.4
	Primary education	169	25.7
	Secondary education	154	23.4
	College and above	95	14.5
Women occupation	Housewife	451	68.6
	Private business	139	21.2
	Government employee	80	12.2
	Others ^a	27	4.1
Ethnicity	Keffa	286	43.5
	Bench	201	30.6
	Menit	91	13.8
	Others ^b	79	12.1
Religion	Protestant	265	40.3
	Orthodox	233	35.5
	Muslim	159	24.2
History of violence in her family	Yes	199	30.3
	No	458	69.7
Previous victimization of violence	Yes	194	29.5
	No	463	70.5
Partner's educational status	Cannot read and write	110	16.7
	Can read and write	230	35.0
	Primary school (1–8)	107	16.3
	Secondary school (9–12)	172	26.2
	College and above	38	5.8
Marital status	Husband	513	78.0
	Cohabiting partner	87	13.0
	Boyfriend	57	9.0
Partner occupation	Farmer	231	35.2
	Private business	192	29.2
	Government employee	187	28.5
	Others ^c	47	7.2
Partner's drug/substance use	Yes	400	60.9
	No	257	39.1
Partner's alcohol use	Yes	293	44.6
	No	364	55.4
Women drug/substance use	Yes	11	1.7
	No	646	98.3
Women alcohol use	Yes	14	2.1
	No	643	97.9
Income (Ethiopian birr)	<500	167	25.4
	501–2000	178	27.1
	2001–5000	160	24.4
	≥5001	152	23.1
	Median (IQR)	2000 (4500)	
Income loss due to COVID-19	Yes	106	16.1
	No	551	83.9

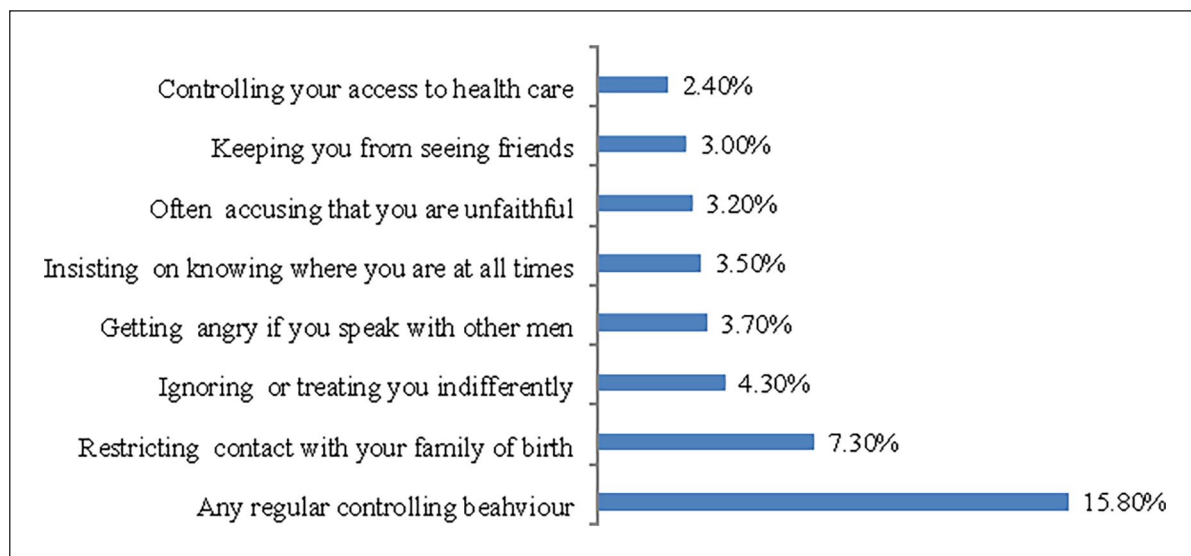
IQR: interquartile range.

^aStudent and private employee.^bAmhara, Tigre, and Gurage.^cPrivate employee and daily laborer.

Table 2. Different forms of violence and combinations committed by intimate partner during COVID-19 pandemic in south-west Ethiopia, 2021 ($n=657$).

P-IPV measures	Variable category	Frequency	Percentage
Act-based form of IPV or regular controlling behaviors	Yes	410	62.4
	No	247	37.6
Act-based form of IPV	Yes	368	56.0
	No	289	44.0
Regular controlling behaviors	Yes	104	15.8
	No	553	84.2
Act-based form of IPV and regular controlling behaviors	Yes	62	9.4
	No	595	90.6
Frequency of act-based form of IPV	Single time period	142	38.6
	Multiple time periods	226	61.4

P-IPV: perinatal intimate partner violence; IPV: intimate partner violence.

**Figure 2.** Different forms of regular controlling behaviors from partner during COVID-19 pandemic in south-west Ethiopia, 2021 ($n=657$).

Perinatal intimate partner violence

The overall P-IPV was 410 (62.4%) with 95% CI of (58.8%, 66.2%). Of these, 104 (15.8%) reported regular controlling behavior from their partners, 368 (56%) reported an act-based form of IPV and 62 (9.4%) reported both. About 226 (61.4%) participants reported that they experienced the act-based form of IPV in multiple time periods (Table 2).

The most common form of regular controlling behavior from a partner was restricting contacts with her family of birth (7.3%) and ignoring or treating her indifferently (4.3%) (Figure 2). Regarding the form and timing of an act-based IPV, 208 (31.7%) and 113 (17.2%) were reported during pregnancy and postpartum periods, respectively. Physical violence was the most common form of IPV reported by participants during pregnancy and postpartum periods followed by sexual violence (Figure 3).

Factors associated with P-IPV during COVID-19 pandemic

The selected covariates include: the age of women, educational status of women, partner's educational status, partner's relationship with women, income loss due to COVID-19, partner's alcohol drinking status since COVID-19, partner's substance use, and previous victimization of violence and history of violence in her family. In this study, income loss due to COVID-19 (AOR: 12.00, 95% CI: 5.60, 25.71, $p < 0.001$) was the strongest factor associated with P-IPV. Young women (AOR: 5.82, 95% CI: 2.72, 12.46, $p < 0.001$), partner alcohol use (AOR: 2.21, 95% CI: 1.37, 3.56, $p = 0.001$), partner substance use (AOR: 2.07, 95% CI: 1.12, 3.83, $p = 0.021$), and partner relationships (cohabitation) (AOR: 1.88, 95% CI: 1.06, 3.34, $p = 0.032$) were also strongly associated with P-IPV (Table 3).

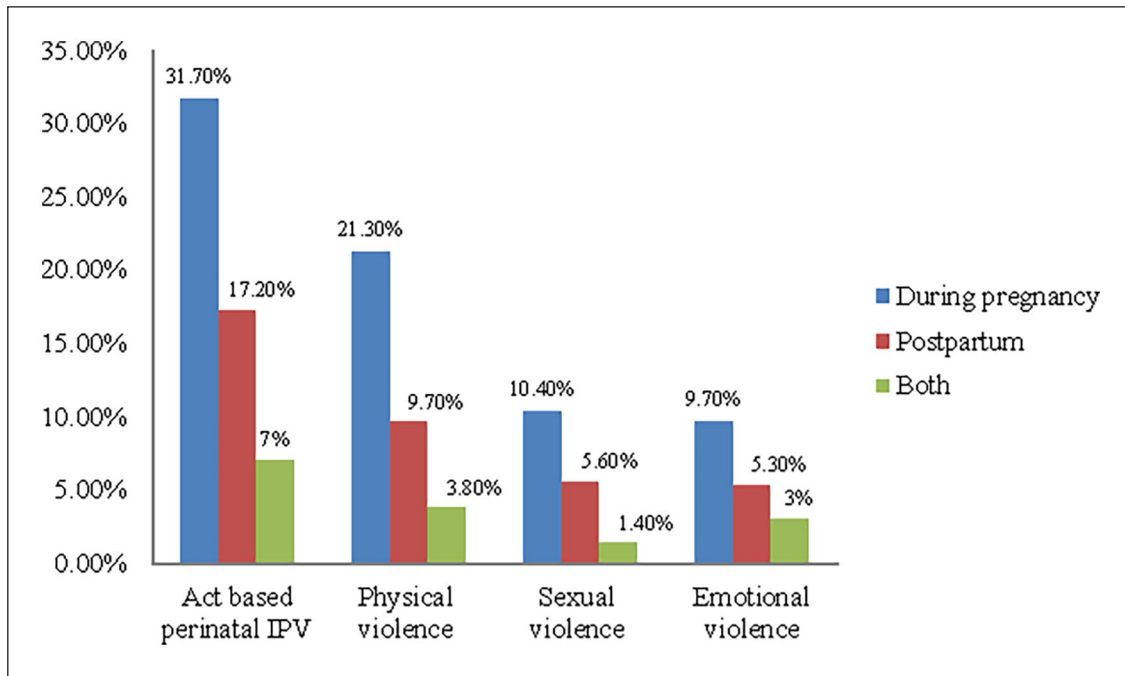


Figure 3. Form and timing of act-based IPV measures among mothers who have given birth during the COVID-19 in south-west Ethiopia, 2021 ($n = 657$).

IPV: intimate partner violence.

Discussion

Although the global pandemic of IPV existed before COVID-19 pandemic, nowadays it is considered a pandemic within the pandemic.⁴¹ Several countries have reported an increase in IPV cases, including serious cases that resulted in deaths during COVID-19.²⁰ In developing countries, including sub-Saharan African countries, data regarding IPV were under-reported due to differences in cultural norms where some actions were not considered as violence.²⁰ This study investigated P-IPV during the COVID-19 pandemic in Ethiopia. The prevalence of P-IPV among women who gave birth during the COVID-19 was higher than the national prevalence reported prior to COVID-19 pandemic.³⁸

This study indicated that the overall prevalence of P-IPV was 62.4%. This finding was higher than the studies reported during the COVID-19 pandemic in the United States (33%),⁴² Canada (24.07%),¹⁴ and Congo (11.7%).²⁸ It was also higher than the studies reported during the COVID-19 pandemic in Ethiopia.²⁹⁻³¹ The possible justification for this discrepancy may be the tool differences used to measure IPV (type of violence), study periods, study population, and timing of IPV screening among different studies. For instance, many of the researchers used the act-based form of IPV only (physical, emotional, and sexual). However, in the current study we used the broad WHO definition of IPV (both act-based and controlling behaviors) that included all form of IPV compared with other scales.⁴³⁻⁴⁵ Moreover, our study incorporates IPV during pregnancy and postpartum.

This finding was consistent with the study finding in Peru where IPV was reported as 60%⁴⁶ but it was lower than the study finding reported in Hubei province, China (90%)¹⁶ and Jordan (80%) during COVID-19 pandemic. This discrepancy might be due to the differences in the study period, study population, and sampling technique. The study in China was conducted during the early phase of COVID-19 lockdown period while a study in Jordan was conducted among pregnant women only using snowball sampling.

This study was consistent with the study reported in the Bale zone, Oromia region (59%)⁴⁷ but lower than the studies reported in the Amhara region, north-eastern Ethiopia (78%),⁴⁸ Addis Ababa,⁴⁹ and the Oromia region (64.7%)⁵⁰ before the COVID-19 pandemic. This discrepancy might be due to sociocultural differences and the differences in strength of legal frames implemented to control violence against women at national and regional levels. Another possible justification could be the differences in the timeframes of the studies. For example, in our study women were asked about their experience of IPV during the perinatal period but the previous studies reported the experience of IPV at any time (lifetime IPV).

However, it was higher than the studies reported in western Ethiopia (44.5%)⁵¹ and Jimma town, Oromia region (44%)⁵² among pregnant women before the COVID-19 pandemic. This discrepancy could be due to tool differences and the timing of IPV screening. Those studies used the abuse assessment screening tool to measure life-time IPV while the

Table 3. Factors associated with IPV during COVID-19 pandemic in south-west Ethiopia, 2021 (n=657).

List of predictors	COR (95% CI)	p-Value	AOR (95% CI)	p-Value
Age of women in years				
<24	1.89 (1.06–3.41)	0.032	5.82 (2.72–12.45)*	<0.001
25–29	0.73 (0.42–1.28)	0.272	1.59 (0.82–3.09)	0.174
30–34	0.35 (0.18–0.65)	0.001	0.24 (0.64–1.27)	0.236
≥35	Reference		Reference	
Women's education				
Cannot read and write	0.49 (0.28–0.86)	0.014	0.93 (0.39–2.21)	0.874
Can read and write	0.45 (0.25–0.82)	0.009	1.04 (0.42–2.62)	0.930
Primary education	0.83 (0.47–1.43)	0.497	0.91 (0.38–2.17)	0.831
Secondary education	0.56 (0.32–0.98)	0.040	0.44 (0.18–1.10)	0.080
College and above	Reference		Reference	
Partner's education				
Cannot read and write	0.33 (0.53–1.33)	0.010	0.76 (0.28–2.07)	0.592
Can read and write	0.39 (1.14–5.57)	0.022	1.27 (0.42–3.82)	0.670
Primary education	0.97 (1.46–4.07)	0.939	2.46 (0.89–6.81)	0.082
Secondary education	0.61 (1.02–2.32)	0.233	1.12 (0.39–3.19)	0.830
College and above	Reference		Reference	
Marital status				
Husband	Reference		Reference	
Cohabited	1.81 (1.08–3.03)	0.024	1.88 (1.06–3.34)*	0.032
Boyfriend	0.55 (0.32–0.96)	0.034	0.54 (0.29–1.02)	0.059
Income loss due to COVID-19				
Yes	5.83 (3.12–10.88)	0.000	12.00 (5.60–25.71)*	<0.001
No	Reference		Reference	
Partner alcohol use				
Yes	1.85 (1.25–2.74)	0.002	2.21 (1.37–3.56)*	<0.001
No	Reference		Reference	
Partner substance use				
Yes	1.83 (1.33–2.53)	0.000	2.07 (1.12–3.83)*	0.021
No	Reference		Reference	
Previous victimization of violence				
Yes	0.80 (0.57–1.13)	0.208	0.52 (0.14–1.91)	0.328
No	Reference			
History of violence in her family				
Yes	0.80 (0.57–1.13)	0.213	1.41 (0.41–4.89)	0.584
No	Reference		Reference	

IPV: intimate partner violence; COR: crude odds ratio; AOR: adjusted odds ratio; CI: confidence interval.

*Significant.

current study used WHO tool to measure IPV during the perinatal time only.

In this study, income loss due to COVID19 was strongly associated with P-IPV. This finding was strongly supported by different literatures.^{53–55} This might be due to the fact that the COVID-19 prevention and control measures such as staying at home has contributed to an individual woman's income loss which poses a greater risk of P-IPV.

In this study, young maternal age was also found as a significant factor of P-IPV. This finding was in line with the previous study reports.^{3,48,50,53} This might be due to the fact that younger women are less likely to possess positive relationship skills than older women but they are more likely to develop violent behavior when dealing with conflicts with

intimate partners. The other possible justification could be that younger women may not have good communication and negotiation skills with their intimate partner concerning the healthcare needs in general and about their reproductive life plan in particular.

This study revealed that women whose partners use substances or alcohol were two times more likely to experience any form of P-IPV compared to those women whose partners did not use it. This finding was supported by previous study reports.^{3,48,50,53} This could be justified by the fact that use of substances or alcohol can affect the thinking and cognitive potential of the users. Therefore, women whose partners use substances or alcohol are more likely to be violated compared to those women whose partners did not use.

Moreover, partner relationship status was also found significantly associated with P-IPV. Women with cohabiting relationship status were more likely to experience P-IPV as compared with those in legal marriages. This finding was also supported by previous study reports.^{56–58} This might be due to the fact that married women were more likely to be governed by law than cohabited.

The strength of this study includes the detailed description of the different forms of IPV (act-based and regular controlling behaviors), timing of IPV screening, and frequency of IPV including revictimization that happened in multiple perinatal time periods. In this study, regular controlling behavior by a male intimate partner was considered as type of violence. Even though it was the most common type of IPV that women experience, it was not commonly reported in previous studies regardless of WHO recommendation. However, this study was not free of limitations. First, we were unable to estimate the change in prevalence of IPV attributable to the COVID-19 pandemic because we did not have a comparison group of participants prior to the pandemic. Secondly, the cross-sectional study design of this study did not permit distinction between cause and effect relationship.

Conclusion

This study showed a relatively higher prevalence of P-IPV. It is important that public-health decision-makers should be aware that restrictive measures due to COVID-19 pandemic may lead to increased income loss and IPV. Therefore, such measures should be implemented with great caution and it is critical to prioritize the health and safety of the women during the perinatal period in public health planning to ensure that they are fully supported and risks are mitigated. Moreover, future qualitative study is required to identify the underlying multifactorial reasons for IPV and to uncover the IPV preventive mechanisms. Such information is required to develop and implement interventions to prevent IPV and support healthcare providers in reducing its harmful consequences.

Acknowledgements

We would like to thank the Mizan-Tepi University, College of Medicine and Health Sciences, Department of Nursing for giving us this chance to conduct this research. We also thank the study participants and data collectors without whom this work would have been impossible.

Authors' contribution

All authors had significantly contributed to the study conceptualization, developing study design, data acquisition, analysis, and interpretation. Moreover, the authors equally participated in drafting, revising, reviewing the first draft manuscript and gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Data sharing statement

All necessary data were included in the article and data sources can be accessed from the first author upon request.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.



Ethical approval and informed consent

The ethical approval was obtained from Mizan-Tepi University, College of Health Science, Research and Community Service Ethical Committee with approval number (MTU/CHS/56/488/31/13). Written informed consent was obtained from all subjects and legally authorized representatives of the subjects before the study. The data collection was conducted using interviewer-administered questionnaire and their responses were kept with strict privacy and confidentiality (Supplemental Material 2).

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Funding for this study was made possible through grants offered by Mizan-Tepi University.

ORCID iDs

Aychew Kassie Gidafie  <https://orcid.org/0000-0003-4379-7497>
Tesfaye Abera Gudeta  <https://orcid.org/0000-0001-9600-0926>

Supplemental material

Supplemental material for this article is available online.

References

1. World Health Organization. *Responding to intimate partner violence and sexual violence against women: WHO clinical and policy guidelines*. Geneva: World Health Organization, 2013.
2. McCloskey LA, Boonzaier F, Steinbrenner SY, et al. Determinants of intimate partner violence in sub-Saharan Africa: a review of prevention and intervention programs. *Partner Abuse* 2016; 7(3): 277–315.
3. Alebel A, Kibret GD, Wagnaw F, et al. Intimate partner violence and associated factors among pregnant women in Ethiopia: a systematic review and meta-analysis. *Reprod Health* 2018; 15(1): 196.
4. Silverman JG, Decker MR, Reed E, et al. Intimate partner violence victimization prior to and during pregnancy among women residing in 26 US states: associations with maternal and neonatal health. *Am J Obstet Gynecol* 2006; 195(1): 140–148.
5. Campbell J, Matoff-Stepp S, Velez ML, et al. Pregnancy-associated deaths from homicide, suicide, and drug overdose: review of research and the intersection with intimate partner violence. *J Womens Health* 2021; 30(2): 236–244.
6. Bradbury-Jones C and Isham L. The pandemic paradox: the consequences of COVID-19 on domestic violence. *J Clin Nurs* 2020; 13–14: 2047–2049.

7. Telles LE, Valenca AM, Barros AJ, et al. Domestic violence in the COVID-19 pandemic: a forensic psychiatric perspective. *Braz J Psychiatry* 2021; 43: 233–234.
8. Chisholm CA, Bullock L and Ferguson JEJ II. Intimate partner violence and pregnancy: epidemiology and impact. *Am J Obstet Gynecol* 2017; 217(2): 141–144.
9. Silva EP, Lemos A, Andrade CH, et al. Intimate partner violence during pregnancy and behavioral problems in children and adolescents: a meta-analysis. *J Pediatr* 2018; 94: 471–482.
10. Han A and Stewart DE. Maternal and fetal outcomes of intimate partner violence associated with pregnancy in the Latin American and Caribbean region. *Int J Gynaecol Obstet* 2014; 124(1): 6–11.
11. Martin-de-Las-Heras S, Velasco C, Luna-del-Castillo JdD, et al. Maternal outcomes associated to psychological and physical intimate partner violence during pregnancy: a cohort study and multivariate analysis. *PLoS One* 2019; 14(6): e0218255.
12. Hassan M, Kashanian M, Roohi M, et al. Maternal outcomes of intimate partner violence during pregnancy: study in Iran. *Public Health* 2014; 128(5): 410–415.
13. Martin-de-las-Heras S, Velasco C, Luna-del-Castillo J, et al. Breastfeeding avoidance following psychological intimate partner violence during pregnancy: a cohort study and multivariate analysis. *BJOG* 2019; 126(6): 778–783.
14. Muldoon KA, Denize KM, Talarico R, et al. COVID-19 and perinatal intimate partner violence: a cross-sectional survey of pregnant and postpartum individuals in the early stages of the COVID-19 pandemic. *BMJ Open* 2021; 11(5): e049295.
15. De Girolamo G, Cerveri G, Clerici M, et al. Mental health in the coronavirus disease 2019 emergency—the Italian response. *JAMA Psychiatry* 2020; 77(9): 974–976.
16. Roesch E, Amin A, Gupta J, et al. Violence against women during covid-19 pandemic restrictions. *BMJ* 2020; 369: m1712.
17. Davis M, Gilbar O and Padilla-Medina D. Intimate partner violence victimization and perpetration among US adults during COVID-19: a brief report. *MedRxiv*. 2020. DOI: 10.1101/2020.06.08.20125914.
18. Jarnecke AM and Flanagan JC. Staying safe during COVID-19: how a pandemic can escalate risk for intimate partner violence and what can be done to provide individuals with resources and support. *Psychol Trauma* 2020; 12(S1): S202–S204.
19. Lee J. Mental health effects of school closures during COVID-19. *Lancet Child Adolesc Health* 2020; 4(6): 421.
20. Moreira DN and da Costa MP. The impact of the Covid-19 pandemic in the precipitation of intimate partner violence. *Int J Law Psychiatry* 2020; 71: 101606.
21. Boserup B, McKenney M and Elkbuli A. Alarming trends in US domestic violence during the COVID-19 pandemic. *Am J Emerg Med* 2020; 38(12): 2753–2755.
22. Leslie E and Wilson R. Sheltering in place and domestic violence: evidence from calls for service during COVID-19. *J Public Econ* 2020; 189: 104241.
23. Matoori S, Khurana B, Balcom MC, et al. Intimate partner violence crisis in the COVID-19 pandemic: how can radiologists make a difference? 2020; 30(12): 6933–6936.
24. Campbell AM. An increasing risk of family violence during the Covid-19 pandemic: strengthening community collaborations to save lives. *Forensic Sci Int* 2020; 2: 100089.
25. WHO. *COVID-19 and violence against women: what the health sector/system can do*, 7 April 2020. Geneva: WHO, 2020.
26. Mazza M, Marano G, Lai C, et al. Danger in danger: interpersonal violence during COVID-19 quarantine. *Psychiatry Res* 2020; 289: 113046.
27. Roseboom TJ. Violence against women in the covid-19 pandemic: we need upstream approaches to break the intergenerational cycle. *BMJ* 2020; 369: m2327.
28. Ditekemena JD, Luhata C, Mavoko HM, et al. Intimate partners violence against women during a COVID-19 lockdown period: results of an Online Survey in 7 Provinces of the Democratic Republic of Congo. *Int J Environ Res Public Health* 2021; 18(10): 5108.
29. Teshome A, Gudu W, Bekele D, et al. Intimate partner violence among prenatal care attendees amidst the COVID-19 crisis: the incidence in Ethiopia. *Int J Gynaecol Obstet* 2021; 153(1): 45–50.
30. Tadesse AW, Tarekegn SM, Wagaw GB, et al. Prevalence and associated factors of intimate partner violence among married women during COVID-19 pandemic restrictions: a community-based study. *J Interpers Violence* 2022; 37: NP8632–NP8650.
31. Gebrewahd GT, Gebremeskel GG and Tadesse DB. Intimate partner violence against reproductive age women during COVID-19 pandemic in northern Ethiopia 2020: a community-based cross-sectional study. *Reprod Health* 2020; 17(1): 152.
32. FMOH. *Infection prevention and control interim protocol for COVID-19 in health care settings in Ethiopia*. Addis Ababa, Ethiopia: FMOH, 2020.
33. EFMOH. *National comprehensive covid19 management handbook*. Addis Ababa, Ethiopia: Ethiopian Federal Ministry of Health, 2020.
34. Duncan TK, Weaver JL, Zakrison TL, et al. Domestic violence and safe storage of firearms in the COVID-19 era. *Ann Surg* 2020; 272(2): e55–e57.
35. Taub A. A new Covid-19 crisis: domestic abuse rises worldwide. *The New York Times*, 2020, p. 6.
36. Van Gelder N, Peterman A, Potts A, et al. COVID-19: reducing the risk of infection might increase the risk of intimate partner violence. *EClinicalMedicine* 2020; 21: 100348.
37. García-Moreno C, Jansen HA, Ellsberg M, et al. *WHO multi-country study on women's health and domestic violence against women*. Geneva: World Health Organization, 2005.
38. CSA. *Ethiopian demographic and health survey* 2016.
39. Garcia-Moreno C, Jansen HA, Ellsberg M, et al. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *Lancet* 2006; 368(9543): 1260–1269.
40. (IBM) IBMC. IBM SPSS Statistics v26 2019 Free Download, <https://getintopc.com/software/analytcs/ibm-spss-statistics-v26-2019-free-download-8941157/> (2019, accessed 27 April 2020).
41. Evans ML, Lindauer M and Farrell ME. A pandemic within a pandemic—intimate partner violence during Covid-19. *N Engl J Med* 2020; 383(24): 2302–2304.
42. Lindberg LD, VandeVusse A, Mueller J, et al. Early impacts of the COVID-19 pandemic: findings from the 2020 Guttmacher survey of reproductive health experiences. 2020.
43. Fraga S, Lucas R and Barros H. A comparison of methods to assess intimate partner abuse 1 year postpartum. *Ann Epidemiol* 2014; 24(5): 404–406.

44. MacMillan HL, Wathen CN, Jamieson E, et al. Approaches to screening for intimate partner violence in health care settings: a randomized trial. *JAMA* 2006; 296(5): 530–536.
45. McFarlane J, Parker B, Soeken K, et al. Assessing for abuse during pregnancy: severity and frequency of injuries and associated entry into prenatal care. *JAMA* 1992; 267(23): 3176–3178.
46. Agüero JM. COVID-19 and the rise of intimate partner violence. *World Dev* 2021; 137: 105217.
47. Lencha B, Ameya G, Baresa G, et al. Intimate partner violence and its associated factors among pregnant women in Bale Zone, Southeast Ethiopia: a cross-sectional study. *PLoS One* 2019; 14(5): e0214962.
48. Semahegn A, Belachew T and Abdulahi M. Domestic violence and its predictors among married women in reproductive age in Fagitalekoma Woreda, Awi zone, Amhara regional state, North Western Ethiopia. *Reprod Health* 2013; 10(1): 63.
49. Mohammed BH, Johnston JM, Harwell JI, et al. Intimate partner violence and utilization of maternal health care services in Addis Ababa, Ethiopia. *BMC Health Serv Res* 2017; 17(1): 178.
50. Deribe K, Beyene BK, Tolla A, et al. Magnitude and correlates of intimate partner violence against women and its outcome in Southwest Ethiopia. *PLoS One* 2012; 7(4): e36189.
51. Abebe Abate B, Admassu Wossen B and Tilahun Degfie T. Determinants of intimate partner violence during pregnancy among married women in Abay Chomen district, Western Ethiopia: a community based cross sectional study. *BMC Womens Health* 2016; 16(1): 16.
52. Gashaw BT, Magnus JH and Schei B. Intimate partner violence and late entry into antenatal care in Ethiopia. *Women Birth* 2019; 32(6): e530–e537.
53. Devries KM, Child JC, Bacchus LJ, et al. Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. *Addiction* 2014; 109(3): 379–391.
54. Mojahed A, Alaidarous N, Kopp M, et al. Prevalence of intimate partner violence among intimate partners during the perinatal period: a narrative literature review. *Front Psychiatry* 2021; 12: 61.
55. Hahn CK, Gilmore AK, Aguayo RO, et al. Perinatal intimate partner violence. *Obstet Gynecol Clin North Am* 2018; 45(3): 535–547.
56. Manning WD, Longmore MA and Giordano PC. Cohabitation and intimate partner violence during emerging adulthood: high constraints and low commitment. *J Fam Issues* 2018; 39(4): 1030–1055.
57. Arenas-Arroyo E, Fernandez-Kranz D and Nollenberger N. Intimate partner violence under forced cohabitation and economic stress: evidence from the COVID-19 pandemic. *J Public Econ* 2021; 194: 104350.
58. Lwanga C, Kalule-Sabit I, Fuseini K, et al. Is cohabitation as a form of union formation a licence to intimate partner physical violence in Uganda? *J Biosoc Sci*. Epub ahead of print 9 September 2021. DOI: 10.1017/S0021932021000444.