




Prevalence and Factor Influencing Intimate Partner Violence against Women during COVID-19 Pandemic: A Systematic Review and Meta-Analysis

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Abstract

Background: It seems that the prevalence of intimate partner violence increased during the COVID-19 pandemic. To investigate the prevalence of different types of IPV and its contributing factors on a global scale during the COVID-19 pandemic.

Methods: This is a systematic review and meta-analysis study. This study followed the preferred reporting items for systematic reviews and meta-analyses (PRISMA) checklist. All original studies, written in English that reported the overall prevalence of IPV or at least one type of IPV against women during the COVID-19 pandemic were included in this study. PubMed, Embase, Scopus, and Web of Science databases were searched in July 2023. Our general keywords included "Intimate Partner Violence", "Spouse Abuse", "Domestic Violence", "COVID-19", and "SARS-CoV-2". We used the Joanna Briggs Institute Checklist to assess the quality of all included studies. We conducted a random effect model for meta-analysis using the Mantel-Haenszel method in comprehensive meta-analysis software Version 3. Each type of IPV is calculated as an event rate with a 95% CI for each variable. The I² statistic test was used to assess the Heterogeneity.

Results: Forty-one studies encompassing 14,615 participants met our eligibility criteria and were included in our study. The overall prevalence of IPV was 31% (95% CI: [24.2, 38.8], $P < 0.001$). Based on type, the highest rate of IPV in the included studies was reported for psychological type (33%, 95% CI: [23.4, 44.3], $P = 0.004$). The rates of IPV for economic, physical, and sexual types were 19.1% (95% CI: [12.2, 28.6], $P < 0.001$), 9.5% (95% CI: [6.8, 13.1], $P < 0.001$), and 8.5% (95% CI: [6.2, 11.7], $P < 0.001$), respectively. Age, education level, being pregnant, and marital duration were among the most frequent influencing factors.

Conclusion: About one-third of women experienced IPV during the COVID-19 pandemic. Psychological IPV emerged as the most prevalent type in the included studies. The most important factors were environmental, social, economic, cultural, and political factors. Age, education level, marital duration, being pregnant, and marital duration were among the most frequent influencing factors.

Keywords: Intimate Partner Violence, Prevalence, Women, COVID-19, Meta-analysis

Conflicts of Interest: None declared

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Introduction

The COVID-19 pandemic started in China in late December 2019, caused economic problems, and affected people's

lives around the world. Governments decided to impose social restrictions to control and prevent the spread of the

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↑What is "already known" in this topic:

There are many discrepancies between the published literature on intimate partner violence (IPV) against women, and there was no overall estimate of the prevalence of IPV against women during the COVID-19 pandemic around the world.

→What this article adds:

Our results showed that about one-third of women experienced IPV during the COVID-19 pandemic at a global level. Age, education level, marital duration, pregnancy, and marital duration were the frequent influencing factors.

COVID-19 disease (1). These restrictions led to the closure of schools, loneliness and isolation of individuals, economic problems, and unemployment. Although from the perspective of health organizations, these restrictions were logical decisions, there were concerns about the adverse consequences, including domestic violence (2). Domestic violence for women and pregnant women was another public health crisis that added to other COVID-19-related consequences. Cohen and colleagues believed that social restrictions on staying at home would increase the risk of violence against women (3). The increase in violence against women during COVID-19 led to a warning from the head of the United Nations (“We know lockdowns and quarantines are essential to suppressing COVID-19, but they can trap women with abusive partners”) (United Nations, 2020). The long-term and severe consequences of domestic violence during the COVID-19 disease are significant(1). Domestic violence includes sexual coercion, physical aggression, and psychological abuse. When restrictions were imposed, many women were exposed to financial problems, increased responsibilities at home, and job loss (4, 5). Globally, approximately 30% of women are estimated to experience some form of Intimate Partner Violence (IPV), including physical and/or sexual violence, during their lifetime (6). In the United States, 14.0% of men and 22.3% of women have reported experiencing physical IPV (7).

Several studies have reported an increase in intimate partner violence (IPV) against women during the pandemic (8-10). A systematic review and meta-analysis conducted by Yakubovich et al. revealed that a low level of education was identified as one of the prominent risk factors for IPV (11). The pre-pandemic factors associated with Intimate Partner Violence (IPV), such as social isolation (12), and unemployment (13), have been firmly established.

Quarantines and social distancing measures to control the spread of the virus have trapped many women with abusive partners and increased the risk of IPV. Risk factors for IPV during the pandemic include economic stress, mental health issues, substance abuse, and gender inequalities (14, 15).

It seems that in some situations, such as pandemics, there are changes in the incidence and prevalence of IPV, which requires a more detailed investigation. Since there is no comprehensive study in this area, researchers have decided to conduct this systematic review and meta-analysis to provide solid evidence for decision-making. This study aimed to investigate the prevalence of IPV, its types, and its influencing factors during the COVID-19 pandemic at the global level.

Methods

This study followed the preferred reporting items for systematic reviews and meta-analyses (PRISMA) checklist (16). We registered the protocol in the International Prospective Register of Systematic Reviews (PROSPERO; CRD42021242931).

Eligibility Criteria

All original studies, written in English, that reported the overall prevalence of IPV or at least one type of IPV against women during the COVID-19 pandemic were included in

this study. Also, we included all original studies that have investigated the factors influencing the occurrence of IPV against women during this pandemic. In this study, we included four types of IPV (physical, psychological/emotional, sexual, and economic). We have considered the World Health Organization (WHO) definition for IPV which refers to “behavior within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviors.” (17).

Duplicate articles and studies that did not report the prevalence of IPV in terms of numbers or percentages and studies whose full text or required information was not available after contacting the corresponding author were excluded from the study.

Information Sources and Search Strategy

PubMed, Embase, Scopus, and Web of Science were searched in July 2023. Also, the references of all included studies were hand-searched, and potential studies were added to the review. Our search is limited to 1 January 2020 to 30 July 2023. Search terms including free terms and MeSH terms, were adapted for each database. Our general keywords included "Intimate Partner Violence", "Spouse Abuse", "Domestic Violence", "COVID-19", and "SARS-CoV-2". The full search strategies for the PubMed database are presented in [Appendix 1](#).

Selection Process

After completing the search, all the records were entered into the EndNote software Version X8, and then the duplicates were removed. Two researchers independently screened all records based on the title, abstract, and full text. To increase the agreement between the two reviewers, we conducted an initial pilot screening with 10 studies and continued screening when the agreement between the two authors reached above 90%. Potential discrepancies are resolved by consultation with a third reviewer.

Data Collection Process and Data Items

Two researchers independently extracted the data. To increase the agreement between reviewers, a data extraction form was developed and piloted on a random sample of 10 included articles. The agreement was 85% in the pilot phase. This form includes data items of the first author, publication date, design of the study, country of origin, the mean age of the participants, sample size, and specific data related to the prevalence of IPV, its types, and factors influencing it. Potential discrepancies are resolved by consultation with a third reviewer.

Quality appraisal

Two reviewers independently appraised the included studies. The agreement was 83% in the pilot phase. We used Joanna Briggs Institute's (JBI) quality appraisal checklist adopted for studies that reported the prevalence of a subject. This checklist contains nine items. A 4-point scale was designed for answers to these questions, including Yes, No, Unclear, and Not applicable. Included studies categorized as low (≤ 3), fair (4-6), and good (≥ 7) quality.

Potential discrepancies are resolved by consultation.

Synthesis methods

We conducted a random effect model of meta-analysis using the Mantel-Haenszel method for overall IPV. Also, we conducted a subgroup analysis based on the subtype of IPV (Physical, psychological, sexual, and economic). All data was inserted into the comprehensive meta-analysis software (CMA) Version 3, and the prevalence rate with a 95% confidence interval (CI) was calculated for each variable. The I^2 statistic test was used to investigate the heterogeneity. Publication bias was assessed using Egger's test and visual inspection of the funnel plot.

Results

Study Selection

Overall, 1489 records were retrieved through initial searches in the databases. After duplicates were removed, 631 records were screened based on title and abstract, of which 134 records screened for full text. 93 studies were excluded at this stage. The reasons for exclusion were not related to the COVID-19 pandemic. The participants were men and did not report IPV in terms of number or percent. Finally, 41 studies were included in this systematic review and meta-analysis (8-10, 14, 18-54). The PRISMA-flow di-

agram presented the entire search process and study selection (Figure 1).

Study Characteristics

Forty-one studies encompassing 14,615 participants were included in our systematic review. The mean age of the participants was 33.8 years. Thirty-nine studies reported the overall prevalence of IPV. Physical, psychological, sexual, and economic types were reported in 35, 22, 32 and 13 studies, respectively. Most of the included studies were published in 2022 (36.5%). The most published studies related to the countries of Ethiopia (21.9), the USA (17.1), and Iran (12.2). The smallest sample size in studies was 132 and the largest sample size was 47819. In terms of design, most of the studies were cross-sectional (37 of 41 studies). Further details about studies characteristics are provided in Table 1.

Quality appraisal

The overall mean quality score of the included studies was 7.7. The maximum and minimum scores for quality were 9 and 5, respectively. Of the included studies, 36 studies (87.8%) scored as good quality, and five studies (12.2%) as fair quality. Fourteen studies received the highest score (9 of 9; 34.15%). Only one study obtained the lowest score in the evaluation questionnaire (5 of 9; 2.44%). For more details, see Appendix 2.

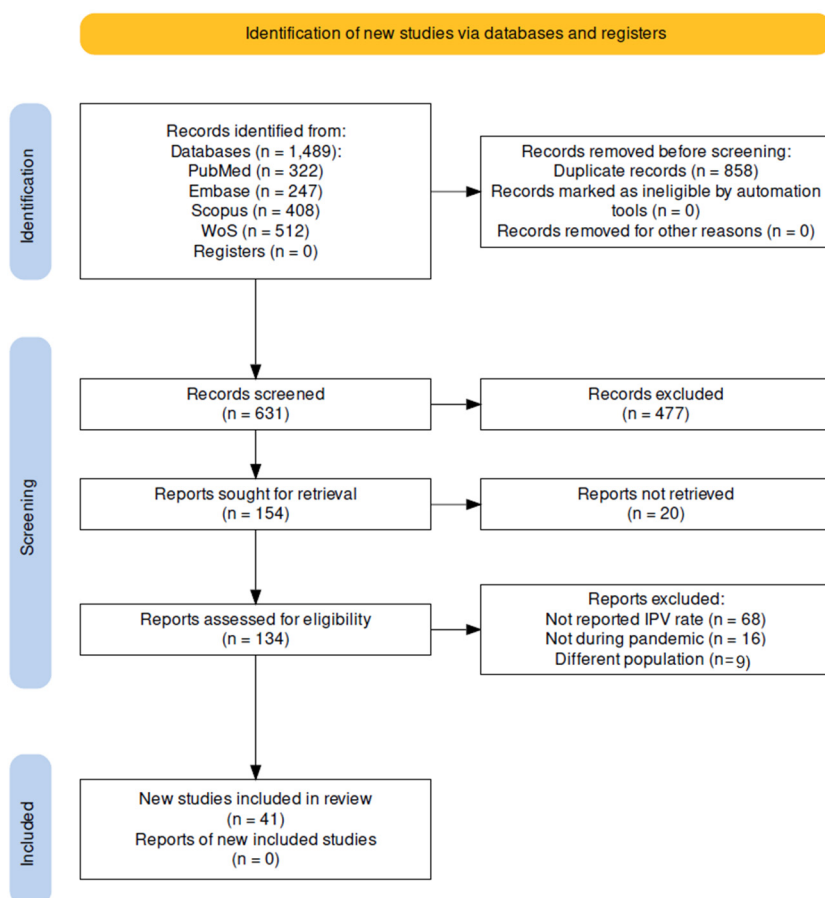


Figure 1. PRISMA flow diagram

Table 1. Summary characteristics of the included studies

Author	Year	Type of study	Country	Sample Size (N)	IPV (N)	Psychological (N)	Physical (N)	Sexual (N)	Economic (N)	Age (Mean)	Age (SD)
Gebrewahd GT, et al.	2020	Cross-Sectional	Ethiopia	682	✓	✓	✓	✓	-	29.78	5.78
Raj A, et al.	2020	Cross-Sectional	USA	1139	✓	-	-	✓	-	-	-
Sediri S, et al.	2020	Cross-Sectional	Tunisian	751	✓	✓	✓	-	✓	37	8.2
Abuhammad S	2021	Cross-Sectional	Jordan	687	✓	-	-	-	-	18-55	-
Cannon CEB, et al.	2021	Cross-Sectional	USA	279	✓	-	-	-	-	47.01	14.67
Ditekemena JD, et al.	2021	Cross-Sectional	Congo	2002	✓	-	✓	✓	-	36.3	8.2
Naghizadeh S, et al.	2021	Cross-Sectional	Iran	250	✓	-	✓	✓	✓	30.57	5.87
Rayhan I, Akter K	2021	Cross-Sectional	Bangladesh	605	✓	-	✓	✓	✓	30.12	6.27
Shitu S, et al.	2021	Cross-Sectional	Ethiopia	448	✓	-	✓	✓	✓	26.05	4.07
Teshome A, et al.	2021	Cross-Sectional	Ethiopia	464	✓	-	✓	✓	✓	28.1	4.8
Yari A, et al.	2021	Cross-Sectional	Iran	203	✓	-	✓	✓	-	34.9	17.28
Peitzmeier SM FL, et al.	2021	Survey	USA	1146	✓	✓	✓	✓	-	18-65	-
El-Nimr NA, Mamdouh HM	2021	Cross-Sectional	Arab	490	✓	✓	✓	✓	-	35.2	7.8
Gama A, et al.	2021	Survey	Portugal	826	✓	✓	✓	✓	-	-	-
Abujilban S, et al.	2022	Cross-Sectional	Jordan	215	✓	✓	✓	✓	-	28.6	4.3
Agronsky BP, Daoud N	2022	Online Survey	Israil	519	✓	-	-	-	-	-	-
Akalin A, Ayhan F	2022	Cross-Sectional	Turkey	1036	✓	✓	✓	✓	✓	31.97	8.54
Anguzu R, et al.	2022	Prospective Cohort	Uganda	148	✓	-	-	-	-	32.9	9.3
Belay AS, et al.	2022	Cross-Sectional	Ethiopia	657	✓	-	✓	✓	✓	26	12
Demeke MG, Shibeshi ET	2022	Cross-Sectional	Ethiopia	796	✓	✓	✓	✓	-	18-45	-
Elsaid NMA, et al.	2022	Cross-Sectional	Egypt	410	✓	-	✓	✓	✓	15-49	-
Fakari FR, et al.	2022	Cross-Sectional	Iran	420	-	✓	✓	✓	-	36.24	8.6
Fetene G, et al.	2022	Cross-Sectional	Ethiopia	590	✓	-	✓	✓	✓	15-40	-
Iverson KM, et al.	2022	Cross-Sectional	USA	142	✓	✓	✓	✓	-	58.75	13.16
Kamath A, et al.	2022	Cross-Sectional	India	412	✓	-	✓	✓	-	19-50	-
Shewangzaw Engda A, et al.	2022	Cross-Sectional	Ethiopia	700	✓	✓	✓	✓	-	33.04	7.5
Tadesse AW, et al.	2022	Cross-Sectional	Ethiopia	589	✓	✓	✓	✓	-	29.78	13
Wood SN, et al.	2022	Cross-Sectional	Ethiopia	983	✓	-	✓	✓	-	15-49	-
Wu F, et al.	2022	Cross-Sectional	China	3434	✓	✓	✓	✓	-	28.97	4.57
Abujilban S, et al.	2023	Cross-Sectional	Jordan	232	✓	✓	✓	✓	-	29.17	4.8

Heterogeneity and Publication Bias

There was a high level of heterogeneity across studies ($I^2 = 99.5$, $df = 38$, $P = 0.0001$). Considering Egger’s tests (t value = 4.76, $df = 44$, $P = 0.00001$), no publication bias was observed in the studies. Also, the visual inspection of the funnel plot approved this issue (Figure 2).

Results of syntheses

Our analysis was conducted based on four types of IPV that were reported in studies frequently (physical, psychological, sexual, and economic).

The rate of overall IPV was 31% ($n = 39$, 95% CI: [24.2, 38.8], $P < 0.001$) (Figure 3). Based on type, the highest rate of IPV in the included studies was reported for psychological type (33%, 46, 95% CI: [23.4, 44.3], $P = 0.004$). The

Table 1. Continued

Author	Year	Type of study	Country	Sample Size (N)	IPV (N)	Psychological (N)	Physical (N)	Sexual (N)	Economic (N)	Age (Mean)	Age (SD)
de Baumont, et al.	2023	Cross-Sectional	Brazil	518	✓	✓	✓	✓	-	37.3	11.3
Drotning KJ, et al.	2023	Cross-Sectional	USA	1674	✓	-	✓	-	-	33.46	11.85
Fereidooni R, et al.	2023	Cohort	Iran	2300	✓	✓	✓	✓	-	37.4	-
Maharlouei N, et al.	2023	Cross-Sectional	Iran	830	✓	✓	✓	✓	-	18-50	-
Nagaswami MV, et al.	2023	Cross-Sectional	South Asia	132	✓	✓	✓	-	✓	28.6	8.7
Rivera LR, et al.	2023	Cross-Sectional	Mexico	47819	✓	-	-	-	-	15-50	-
Sánchez ODR, et al.	2023	Cross-Sectional	Brazil	600	✓	-	✓	-	-	-	-
Wood L, et al.	2023	Cross-Sectional	USA	289	-	✓	✓	✓	✓	18-55	-
Atilla R, et al.	2023	Cross-Sectional	Turkey	456	✓	✓	✓	✓	✓	26.66	5.45
Güngör, et al.	2023	Cross-Sectional	Turkey	1372	✓	✓	✓	✓	✓	42	11.2
Oswald DL, et al.	2023	Cross-Sectional	USA	1168	✓	✓	✓	✓	-	37.93	12.04

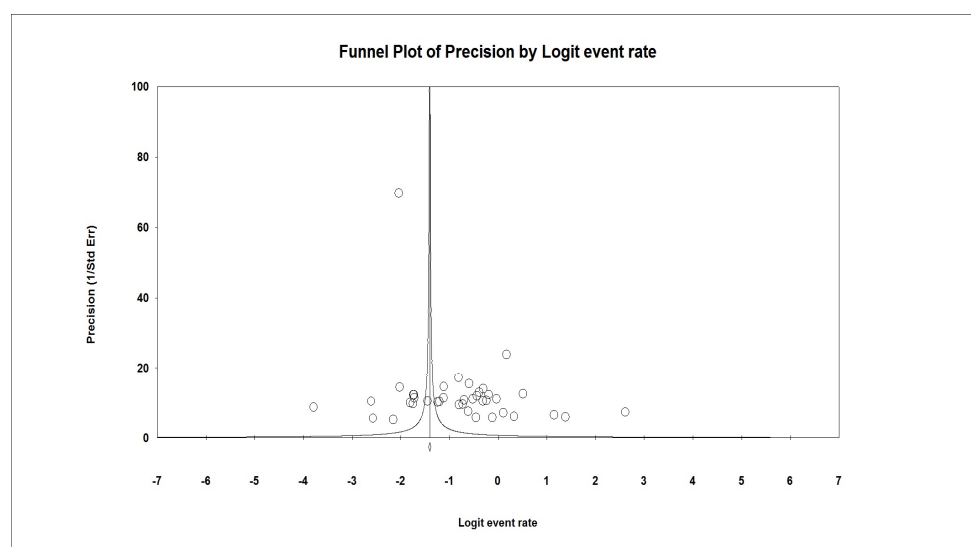


Figure 2. Funnel plot of precision by logit event rate for investigating publication bias

rate of IPV for economic, physical, and sexual type were 19.1% (95% CI: [12.2, 28.6], $P < 0.001$), 9.5% (95% CI: [6.8, 13.1], $P < 0.001$), and 8.5% (95% CI: [6.2, 11.7], $P < 0.001$), respectively (Figure 4).

Twenty-four studies have reported the factors influencing IPV against Women during the COVID-19 Pandemic. Different studies have investigated and reported different factors. These factors were in a range of environmental, social, economic, cultural, and political factors. Age, education level, marital duration, being pregnant, and marital duration were among the most frequent influencing factors (Table 2).

Discussion

This systematic review and meta-analysis aimed to investigate the prevalence of IPV, its types, and its influencing factors at the global level. After analyzing data, the results showed an overall prevalence of 31% for IPV. The rate of IPV for psychological, economic, physical, and sexual types was 33%, 19.1%, 9.5%, and 8.5% respectively.

Violence and domestic abuse hurt physical and mental health. Intimate Partner Violence (IPV) is one of the most common forms (55), and the occurrence of physical IPV and the severity of injuries have increased during the COVID-19 period.

During the lockdown period, psychological violence in couples increased compared to before (56). The increase in

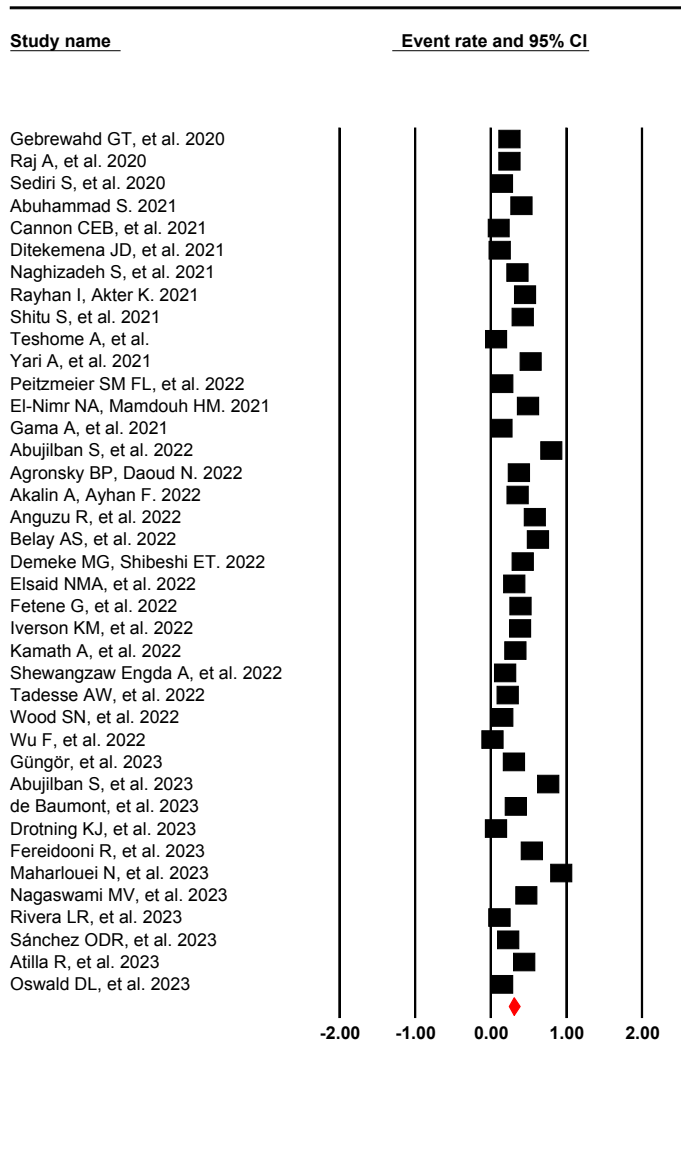


Figure 3. The forest plot for meta-analysis of event rate for overall IPV

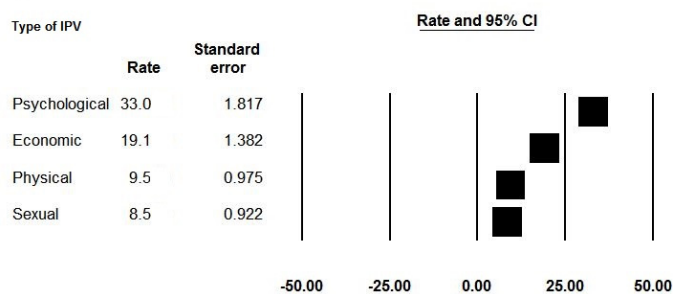


Figure 4. The forest plot for meta-analysis of event rate based on different types of IPV

IPV may be due to the extended time spent at home (quarantine) (57-61), increased stress, conflict, and violence (56); low income (58, 62), low education, exposure to contaminated resources, family members' illness, losing loved

ones, increased physical distance during the pandemic. On the other hand, secondary undesirable events such as reduced access to mental health care services (63) to alleviate depression and anxiety, psychological stressors, insomnia,

Table 2. Factors influencing the prevalence of IPV against Women during the COVID-19 Pandemic

Author	Year	Result
Gebrewahd GT, et al.	2020	Women's level of education Uneducated vs College or university (3.17 (1.38-7.28,p=0.007), primary vs College or university (3.49(1.50-8.12),p=0.004) , secondary vs College or university (3.38(1.45-7.86),p=0.005); Women's occupation Housewife vs Employed (0.16(0.11-0.23),p<0.001); Types of marriage Arranged vs Love marriage (0.54(0.37-0.77),p<0.001);
Abuhammad S	2021	Nationality (Beta: 0.19, p=0.002) Job (Beta: 0.27, p<0.001) Marriage (Beta: 0.46, p<0.001)
Cannon CEB, et al.	2021	Income loss due to COVID-19 (OR: 0., 95%CI: 0.23-0.99) Renters (OR: 0.43, 95%CI: 0.19-0.98) Nutritional stress (OR: 3.21, 95%CI: 1.29-7.99)
Ditekemena JD, et al.	2021	being in the 30–39 and >50 years age groups (OR = 0.66, CI: 0.46–0.95; p = 0.026 and OR = 0.23, CI: 0.11–0.48; p < 0.001, respectively) living in urban setting (OR = 0.63, CI: 0.41–0.99; p = 0.047) being in the middle socioeconomic class (OR = 0.48, CI: 0.29–0.79; p = 0.003) socioeconomic level (OR = 1.84, CI: 1.04–3.24; p = 0.035) being pregnant (OR = 1.63, CI: 1.16–2.29; p = 0.005) being uncertain of pregnancy status (OR = 2.01, CI: 1.17–3.44; p = 0.011)
Naghizadeh S, et al.	2021	Prolonged spouse's stay at home during the COVID-19 outbreak (Reference: No) (B: -6.40,95%CI: -1.02,-11.76,p=0.02) The effect of COVID-19 disease on the relationship with the spouse (Reference: No) (B: -980, 95%CI: -1.72,-17.88,p=0.018)
Rayhan I, Akter K	2021	Marital Duration (years) >10 vs <3 (0.37(0.22-0.63,p<0.001); Types of marriage Arranged (2.40(1.24-4.66),p=0.009); Residence Rural (2.89(1.92-4.34,p<0.001); Women's level of education >secondary school (0.16(0.09-0.25),p<0.001); Women's employment status Unemployed/Housewife (2.34(1.55-3.52),p<0.001); Husband's age >40 vs <30 (0.059(0.03-0.11),p<0.001) , 30-40 vs <30 (0.34(0.21-0.53),p<0.001); Monthly Family Income Upper income vs Lower income (0.14(0.08-0.25),p<0.001) , Middle income vs Lower income (0.31(0.21-0.47),p<0.001); Family income reduced during COVID-19 pandemic Moderately/A lot (12.67(7.87-20.36),p<0.001)
Shitu S, et al.	2021	age ≥ 35 (AOR = 2.02; 95% CI: 1.99–4.29), rural residence (AOR = 3.04; 95% CI: 2.59–6.25), husband's educational status of diploma and above (AOR = 0.35; 95% CI: 0.14–0.83), COVID-19 pandemic (AOR = 4.79; 95% CI: 1.13–6.86), low social support (AOR = 3.23; 95% CI: 1.99–6.23)
Teshome A, et al.	2021	Decision made together 0.19 (0.07–0.59, p= 0.004) Partner drinks alcohol 3.36 (1.64–6.91, p= 0.001) Partner chews Khat 3.22 (1.51–6.86, p= 0.002)
Yari A, et al.	2021	Wife age <25 (aOR:22.84(3.0-18.97),p=0.02) Wife Education Primary/Elementary vs university (2.95 (7.56–21.03) ,p=0.02) Wanted marriage no vs yes 10.10 (1.33–18.88), p=0.02 Wise marriage no vs yes 1.67 (7.19–25.68) ,p=0.03
Peitzmeier SM FL, et al.	2021	Urbanicity Urban vs Rural (2.73(1.25-5.96)), Suburban vs rural (2.98(1.09-8.14)); Employment status Unemployed, not looking for work vs Employed (full-time) (0.34(0.17-0.72)); Ever couldn't pay rent on time since COVID yes vs no (4.8(2.92-7.87)); Parenting time or child support order with partner or ex-partner yes vs no (2.36(1.21-4.59)); Age of youngest child 1-2 year vs no children 2.35(1.01-5.48);
El-Nimr NA, Mamdouh HM	2021	Region of residence (Africa) (1.87(1.27-2.75),p=0.001); Family income (enough) (0.44(0.23-0.87),p=0.02); Husband lost his job (no) (0.52(0.29-0.92),p=0.03)
Gama A, et al.	2021	Education secondary (1.80(1.12-2.89),p=0.01)
Akalin A, Ayhan F	2022	Unemployed yes vs no (OR: 1.39,95%CI: (1.04-1.85),p=0.01) Marital poor vs excellent (11.39(5.7-22.4), p<0.001) Increase of workload in the household (3.14(2.33-4.22) , p<0.001
Demeke MG, Shibeshi ET	2022	education [AOR (95% CI): 3.66 (1.91–6.98)], having no own income [AOR (95% CI): 1.78 (1.24–2.56)], attitude of IPV were acceptable [AOR (95% CI): 4.02 (1.33–12.14)]; a male partner with no formal education [AOR (95% CI): 3.06 (1.53–6.14)], with “level of religious beliefs” [weak—AOR (95% CI): 4.17 (1.45–12.03); medium—AOR (95% CI): 1.64 (1.13–2.39)], who is alcoholic [AOR (95% CI): 5.91 (4.03–8.67)], with smoking habits [AOR (95% CI): 2.04 (1.10–3.77)] and >5 [AOR (95% CI): 1.83 (1.01–3.39)]

and increased substance abuse worsened the situation for vulnerable groups such as women and children (64). Moreover, the tension resulting from spending extra time with a partner who has recently become unemployed may be one of the reasons for the increase in violence among women

who have lost their jobs or their partner has become unemployed (61). These instances indicate a connection between quarantine conditions and psychological problems, highlighting that individuals are more at risk of physical and psychological violence, especially psychological distress during the quarantine period.

Table 2. Continued

Author	Year	Result
Elsaid NMA, et al.	2022	Husband addiction (OR: 14.4,95%CI: 4.1-50.2) Income (sufficient) (2.01 (1.2-3.2)) Husband education postgraduate vs secondary (0.3 (0.1-0.6))
Fetene G, et al.	2022	Residence Rural vs Urban (1.68(1.20-2.36); Educational status of women Not attend formal education vs Secondary and above (2.14(1.37-3.35); Educational status of husband Not attend formal education vs Secondary and above (3.76(2.36-5.99)); Age of husband, >40 vs <30 (1.75(1.08-2.85)); Husband drank alcohol yes vs no (3.52(2.0-6.20)); Husband chewed khat yes vs no (1.75(1.04-2.95)); Decision-maker in the household Husband only vs Together (6.59((4.46-9.73)); COVID-19 pandemic-induced economic downturns Moderate to a lot vs Not at all or slightly (9.23(5.8-14.89))
Shewangzaw Engda A, et al.	2022	Weight status Overweight vs normal (2.2(1.5-3.3,p<0.001); Suicidal ideation yes vs no (7.5(4.5-12),p<0.001); Depressive symptoms yes vs no (9.54(6.2-14.6),p<0.001); Body image disturbance yes vs no (2.3(1.6-3.4),p<0.001); Suicidal attempt yes vs no (18(3.8-86),p<0.001);
Tadesse AW, et al.	2022	secondary and above education levels (2.37(1.29-4.35)); women who had illiterate husbands (2.67(1.36-5.21)); substance users (alcohol, chat, or cigarette) (2.75(1.42-5.34)) nonuser husbands (2.75(1.42-5.34))
Fereidooni R, et al.	2023	SES low vs high (5.28(1.93-14.42)); Change in woman's job status Remained housewife vs Remained employed (3.03(1.44-6.43)), Became unemployed vs Remained employed (342.44(33.19-3533.51)),
Nagaswami MV, et al.	2023	Employment status Full-time employment vs. no full-time employment (OR (95%CI): 0.13 (0.02, 0.99) Mental Health COVID-19 related worry (1.44 (1.11, 1.87))
Rivera LR, et al.	2023	unemployed (OR = 2.01; 95%CI 1.89–2.16); being partially and totally quarantined (OR = 1.58; 95%CI 1.43–1.75 and OR = 1.47; 95%CI 1.32–1.63); being a caregiver of children; being a caregiver of elderly and/or suffering from a chronic illness (OR = 1.27; 95%CI 1.19–1.36; OR = 1.42; 95%CI 1.33–1.53; OR = 1.59; 95%CI 1.47–1.73); losing a family member to COVID-19 (OR = 1.26; 95%CI 1.13–1.41); and binge drinking (OR = 1.94; 95%CI 1.78–2.12).
Sánchez ODR, et al.	2023	Women with non-white skin colour (OR = 1.53; 95% CI 1.01–2.34; p = .048), gestational age ≤ 13 weeks (OR = 3.41; 95% CI 1.03–11.25; p = .044) and in postpartum period (OR = 2.81; 95% CI 1.32–5.99; p = .008)
Atila R, et al.	2023	good marital relations was 2.41 (95% CI:1.51–3.85; p < .001) times higher, and those with moderate-bad-very bad marital relations had a 13.21-fold (95% CI:6.29–27.74; p < .001) The effect – Negative .29 (95% CI:1.97–31.88; p = .004)
Güngör, et al.	2022	Number of pregnancies 1.68 (95%CI:1.06–2.65; p = .026) Age of the participant >45 vs <45 (OR: 0.76,95%CI: 0.59-0.98, p=0.03) Education level of the participant Undergraduate degree or more vs Less than undergraduate degree (OR: 0.71 ,95%CI: 0.51-0.97, p=0.03) Alcohol use of the partner 14 standard drinks or more/week vs NO (OR: 2.08 , 95%CI: 1.30-3.33, p=0.002)

The results of the analysis of studies indicate that, after psychological problems, the prevalence of economic, physical, and sexual IPV was 19.1%, 9.5%, and 8.5%, respectively. It seems that one of the main factors affecting the increase of IPV in women is related to the problems of economic insecurity. Also, economic inequality in relationships was related to IPV. Clear evidence from Australian and international research suggests that acute economic stress factors related to the COVID-19 pandemic were associated with the onset and exacerbation of IPV (65). On the other hand, factors such as economic shutdown (66), stress related to financial instability (58), and economic loss (63), created stressful conditions in households. This economic stress, depending on who (woman or her partner) is more affected by the economic problem, can have inverse effects on IPV. If the relative situation of the woman (man) worsens, the patterns of domination increase and lead to a decrease in domestic violence against women. In contrast to this model, the Male Response Theory predicts an increase in violence if the relative situation of the man worsens, as this threatens his dominant position among couples

(61, 66).

Arenas-Arroyo stated that alongside health-related stress, factors such as quarantine, economic stress (66), and economic recession (13) are among the most important IPV factors (66). Schneider and colleagues (13) found that economic problems are associated with an increase in men's insulting behaviors, along with factors such as the duration of quarantine (57-60), family members' illness, losing loved ones, depression, and anxiety (64), lead to violence. However, the results of the study by Andersson and colleagues (67) and Blenner and colleagues (68), which included a group from 31 countries, showed that unemployment does not affect IPV. Perhaps this difference in results can be better justified by the social class and economic status of the individuals under study.

In the study by Gosangi and colleagues, the number of victims of physical abuse was 26 out of 62 individuals (42%) in 2020, compared to 42 out of 342 individuals (12%) from 2017 to 2019 (69). The study by Glowacz in 2022 revealed that during the COVID-19 quarantine, 33% of the study participants had experienced at least one form

of psychological or physical violence after 4 weeks, excluding sexual violence in their relationships (56). It was also noted in the Glowacz study that men reported a significant increase in participation in IPV during the quarantine (58, 70).

Other results of the studies showed that age, education level, duration of marriage, and pregnancy were among the most influential factors. This can be justified by the fact that women under 30 years old (71, 72) and women with lower education levels may lack awareness of legal rights, available health services, and avoidance of social norms. On the other hand, less-educated husbands may not perceive violence against women due to poor awareness of their spouse's legal rights. Therefore, women and husbands with lower education levels are more likely to experience sexual assault by their partners (30, 66, 73, 74). The results also indicated that the duration of marriage and pregnancy played a role in IPV. Abujilban found that sexual partner violence among pregnant Jordanian women was common during the quarantine but less than before, possibly because during the COVID-19 pandemic, individuals were following news about daily infection rates, new regulations on travel restrictions, etc., which contributed to reducing IPV (14). A study by Muldoon showed that almost one-fourth (24.07%) of participants who experienced pregnancy during the pandemic reported some form of prenatal IPV, and household income was one of the important factors affecting IPV (75). Various studies have well established the link between income and violence, and sustained stress due to low socio-economic status poses a greater risk for prenatal IPV (13, 58, 63, 66, 75, 76).

Marital adjustment significantly decreased during the pandemic for married individuals compared to before the pandemic. Several studies from Turkey stated a higher level of marital adjustment before the pandemic compared to the pandemic period (77). A study conducted during the COVID-19 outbreak in China emphasized that married individuals experienced more emotional difficulties from their spouses compared to single individuals (78). These findings indicate that during the pandemic, actions requiring confinement at home and restricting social life have altered family dynamics and created conflicts (61, 77).

Limitations

Our review has several limitations. First, the heterogeneity between studies was different and high. We used subgroup analysis to overcome this limitation. Another limitation was the difference in the type of questionnaires, which did not allow the researchers to perform some analyses.

Recommendations for future research

Considering the noticeable increase in the prevalence of IPV during the COVID-19 pandemic and after it, and taking into account the differences in the context and population characteristics, the lack of original studies for investigating the level of IPV among different populations is felt. In addition, it is recommended that researchers investigate the prevalence of this issue in other epidemics or pandemics because there is a possibility that we will have such an in-

crease in the prevalence of this phenomenon in the population in the case of other pandemics.

Conclusion

One-third of women experienced IPV during the COVID-19 pandemic. The most prevalent type of IPV was Psychological. Factors such as age, education level, pregnancy, and marital duration were identified as frequent contributors to IPV. The findings emphasize the need for regional and national studies to obtain accurate estimates and tailor preventive measures accordingly.

Authors' Contributions

SGh: idea, supervision, writing manuscript; BN: data extraction, quality appraisal, writing manuscript, revise; RB: data extraction, quality appraisal, writing manuscript, revise; MA-Z: Idea, design, analysis, supervision, writing manuscript, revise, and approve the final draft. All authors approved the final draft before publication.

Ethical Considerations

Not applicable.

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Conflict of Interests

The authors declare that they have no competing interests.

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Appendix 1. Full search strategy for PubMed database

Database	Query
PubMed	("Intimate Partner Violence"[MeSH Terms] OR "Spouse Abuse"[MeSH Terms] OR "Domestic Violence"[MeSH Terms]) AND ("COVID-19"[MeSH Terms] OR "SARS-CoV-2"[MeSH Terms])

Appendix 2. Quality appraisal of the included studies

Author	Year	Q1*	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total
Gebrewahd GT, et al.	2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Raj A, et al.	2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Sediri S, et al.	2020	Y	Y	Y	Y	U	Y	Y	Y	N	7
Abuhammad S	2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Cannon CEB, et al.	2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Ditekemena JD, et al.	2021	Y	Y	Y	Y	Y	Y	U	Y	Y	8
Naghizadeh S, et al.	2021	Y	Y	Y	U	N	Y	U	Y	Y	6
Rayhan I, Akter K	2021	U	Y	Y	Y	U	N	Y	Y	Y	6
Shitu S, et al.	2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Teshome A, et al.	2021	Y	Y	Y	N	Y	Y	Y	Y	Y	8
Yari A, et al.	2021	Y	U	Y	Y	Y	Y	Y	Y	U	7
Peitzmeier SM FL, et al.	2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
El-Nimr NA, Mamdouh HM	2021	Y	Y	Y	Y	Y	N	Y	Y	Y	8
Gama A, et al.	2021	U	Y	Y	Y	U	Y	Y	Y	U	6
Abujilban S, et al.	2022	Y	Y	Y	U	N	U	Y	Y	Y	6
Agronsky BP, Daoud N	2022	N	Y	Y	U	Y	Y	Y	Y	Y	7
Akalin A, Ayhan F	2022	Y	Y	Y	Y	U	N	Y	Y	U	6
Anguzu R, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	U	8
Belay AS, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Demeke MG, Shibeshi ET	2022	Y	Y	U	Y	N	Y	Y	Y	Y	7
Elsaid NMA, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Fakari FR, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Fetene G, et al.	2022	Y	Y	Y	U	U	Y	Y	Y	Y	7
Iverson KM, et al.	2022	Y	Y	Y	N	Y	Y	Y	Y	U	7
Kamath A, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Shewangzaw Engda A, et al.	2022	Y	Y	Y	Y	Y	N	Y	Y	Y	8
Tadesse AW, et al.	2022	Y	Y	Y	N	Y	Y	N	Y	Y	7
Wood SN, et al.	2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Wu F, et al.	2022	Y	Y	Y	U	Y	Y	Y	Y	U	7
Abujilban S, et al.	2023	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
de Baumont, et al.	2023	Y	Y	Y	Y	N	U	Y	Y	Y	7
Drotning KJ, et al.	2023	Y	N	Y	N	N	N	Y	Y	Y	5
Fereidooni R, et al.	2023	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Maharlouei N, et al.	2023	Y	Y	Y	N	Y	Y	N	Y	Y	7
Nagaswami MV, et al.	2023	Y	Y	N	Y	Y	N	Y	N	Y	6
Rivera LR, et al.	2023	Y	Y	Y	Y	N	Y	Y	Y	Y	8
Sánchez ODR, et al.	2023	Y	Y	U	Y	Y	Y	Y	Y	Y	8
Wood L, et al.	2023	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Atilla R, et al.	2023	Y	Y	Y	Y	U	Y	Y	Y	U	7
Güngör, et al.	2023	Y	Y	Y	Y	N	Y	Y	Y	Y	8
Oswald DL, et al.	2023	Y	Y	Y	Y	Y	N	Y	Y	Y	8