



## Intimate partner violence against married women of reproductive age in Nepal during the COVID-19 pandemic

Bandana Bhatt<sup>a</sup>, Navin Bhatt<sup>b,\*</sup>, Ashmita Karki<sup>c</sup>, Govind Giri<sup>d</sup>, Bibisha Baaniya<sup>e</sup>, Bandana Neupane<sup>f</sup>, Sunil Bogati<sup>g</sup>, Satyam Mahaju<sup>h</sup>, Anubhav Poudel<sup>h</sup>, Sandip Pokharel<sup>i</sup>, Naresh Kafle<sup>j</sup>, Shristi Nepal<sup>b</sup>, Ranjit Sapkota<sup>k</sup>, Sangita Shrestha<sup>a</sup>, Roshani Laxmi Tuitui<sup>a</sup>, Reshu Agrawal Sagtani<sup>l</sup>

<sup>a</sup> Department of Health Services, Ministry of Health and Population, Kathmandu, Nepal

<sup>b</sup> Tribhuvan University Teaching Hospital, Institute of Medicine, Kathmandu, Nepal

<sup>c</sup> Central Department of Public Health, Institute of Medicine, Kathmandu, Nepal

<sup>d</sup> Nobel College, Kathmandu, Nepal

<sup>e</sup> Koshi Hospital, Biratnagar, Nepal

<sup>f</sup> Nepal Health Sector Support Programme (NHSSP)/DFID/Ministry of Health and Population, Kathmandu, Nepal

<sup>g</sup> Kolhabi Primary Health Care Center, Bara, Nepal

<sup>h</sup> Sukraraj Tropical and Infectious Disease Hospital, Kathmandu, Nepal

<sup>i</sup> College of Medical Sciences, Chitwan, Nepal

<sup>j</sup> Syangja District Hospital, Syangja, Nepal

<sup>k</sup> Dhaulagiri Hospital, Baglung, Nepal

<sup>l</sup> Patan Academy of Health Sciences, Lalitpur, Nepal

### A B S T R A C T

**Introduction:** Intimate partner violence (IPV) is a significant public health concern in Nepal and its prevalence has increased during the COVID-19 pandemic. This study aimed to assess the prevalence of IPV among married women of reproductive age in Nepal during the pandemic.

**Methods:** A web-based survey was conducted with 420 participants using a validated questionnaire adopted from the World Health Organization. Descriptive and inferential statistical analyses were performed.

**Results:** Our study found that 52.62% of participants experienced IPV during the COVID-19 pandemic with economic violence being the most prevalent type (38.81%) and followed by behavioral control (37.14%), emotional violence (26.20%), physical violence (21.43%), and sexual violence (14.05%). Despite the high level of IPV, only 14% of participants sought help and only 6% reported the violence to the police. Univariate analyses showed that factors such as the husband's level of education and occupation, number of children, property ownership, husband's alcohol use, relationship and quarrels with the husband, fear of the husband, and participation in decision-making were associated with an increased risk of IPV. Multivariate analysis revealed that women involved in decision-making faced a 2.52 times higher risk of violence, that women who reported daily quarrels had a risk 5.47 times that of women who did not endorse fights, and that women who were afraid of their husbands had a risk 16 times that of women who did not report fear.

**Conclusion:** This study reveals a concerning prevalence of IPV among married women in Nepal during the COVID-19 pandemic. Our findings emphasize the low reporting rates and help-seeking behavior among IPV victims. They also highlight the significant influence of factors such as participation in decision-making, frequent quarrels, and fear. These findings underscore the urgent need to establish support systems for IPV victims and develop targeted interventions tailored to the local context. Furthermore, conducting comprehensive research and understanding the interplay of contributing factors can guide the formulation of effective strategies to combat this pervasive societal problem.

\* Corresponding author. Tribhuvan University Teaching Hospital, Institute of Medicine, Kathmandu, Nepal" instead of only "Kathmandu, Nepal.  
E-mail address: [n.navin.bhatt@gmail.com](mailto:n.navin.bhatt@gmail.com) (N. Bhatt).

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## 1. Introduction

Intimate partner violence (IPV) is a serious, pervasive, and significant public health and social concern [1,2]. The World Health Organization (WHO) defines IPV as any behavior within an intimate relationship that results in physical, psychological, or sexual harm to individuals involved [1]. It encompasses various forms of abuse, including physical violence (such as hitting or beating), sexual violence (including forced sexual acts), emotional abuse (such as insults and threats), and controlling behaviors (such as isolation and restricting resources) [1]. Additionally, economic abuse is a distinct type of IPV that involves actions aimed at exerting control over a woman's capacity to obtain, utilize, and sustain economic resources, thereby endangering her financial security and capacity for self-sufficiency [3].

In Nepali society, the concept of IPV is relatively new and it is commonly referred to as domestic violence (Gharelu himsa) or violence against women (Mahila himsa) by law enforcement, service providers, and the public [4,5]. The Domestic Violence Act in Nepal defines domestic violence as any type of physical, mental, sexual, or economic harm inflicted by a person upon someone with whom they share a familial relationship, which also includes acts of reprimand or emotional harm [6]. This differs from the definition of domestic violence in many other countries, which may also encompass child abuse, elder abuse, or abuse by any member of a household [1].

Violence violates the fundamental rights of women and affects one-third of all women worldwide [7], including in developed nations like China, the United States, Australia, France, and the UK [8]. It is estimated that around 27% of ever-partnered women aged 15–49 globally have encountered physical or sexual IPV, or both, throughout their lifetimes [9]. Moreover, IPV against women is proven to have a significant effect on mental health, leading to conditions such as depression, anxiety, substance abuse, and low self-esteem [10]. According to the 2016 Nepal Demographic and Health Survey (NDHS), the prevalence of IPV in Nepal among ever-married women was 26%, among which 23% experienced physical violence, 12% emotional violence, and 7% sexual violence [11].

There exist various risks for IPV which can be categorized as per the social-ecological model into individual, relationship, community, and societal levels [12]. At an individual level, risk factors include young age, low education level, socioeconomic disadvantage, alcoholism, exposure to IPV during childhood, and development of negative attitudes toward women from an early age, among others [13–15]. At a relationship level, risk factors include conflict within the partner relationship, exertion of dominance and control by a partner, unhealthy family dynamics, economic stress, parents with low educational attainment, and exposure to violence or poor parenting during childhood [5,13,16,17]. At a community level, risk factors include high poverty rates, limited educational and economic opportunities, elevated unemployment levels, elevated violence and crime rates, easy accessibility to drugs and alcohol, low community involvement, and weak community sanctions against IPV [14,17]. At a societal level, risk factors include adherence to traditional gender norms, expressions of gender inequality, cultural acceptance of aggression towards others, income disparities, and inadequate policies or laws addressing IPV [4,17].

In Nepal, family culture and structure play a significant role in shaping the dynamics of IPV. The traditional family structure in Nepal is typically patriarchal, with the male head of the household holding authority and decision-making power [16]. Women in Nepal have long faced limited access to education and employment opportunities while lacking decision-making power within both the family and society [18]. Gender roles and expectations are deeply ingrained within the cultural fabric in that women are typically expected to be submissive and obedient, always prioritizing the needs and desires of their husbands and in-laws. Moreover, the cultural preference for sons over daughters has further impacted the treatment of women, leading to discrimination and disparities in resource allocation [4,16].

The Constitution of Nepal prohibits women from any form of violence or exploitation, including physical, mental, sexual, psychological, and other forms of harm based on religion, social status, culture, tradition, or any other grounds [19]. However, Nepal's culturally prevailing practices even before the COVID-19 pandemic tolerated and even legitimized violence against women, exacerbating gender inequality and hindering the realization of women's rights [16]. These gender roles, power imbalances, and unequal norms perpetuate IPV, creating an environment where abusive behavior is more likely and even tolerated. In addition, societal norms that discourage seeking help outside the family and the prevalence of extended family structures often predispose to IPV [4,11,16].

The COVID-19 pandemic has significantly exacerbated the occurrence of IPV [20]. Pandemic-induced unpredictability and apprehension have created a favorable environment for violence, further reinforcing the preexisting gender inequalities [21]. As Nepal began to witness a rise in COVID-19 cases, the reported increase in IPV rates only represented the “tip of the iceberg” [22]. The pandemic exacerbated unemployment and economic insecurities, leading to a surge in risky behaviors like alcoholism and substance abuse which resulted in heightened family conflicts and violence amongst the predominantly male breadwinners. The imposed lockdown measures confined both abusers and victims to their homes, intensifying the potential for abuse [21,23]. Additionally, movement restrictions further hindered victims' access to essential healthcare and support systems. The combination of limited mobility, increased joblessness, economic strain, and weakened support systems due to the pandemic exacerbated the challenges faced by women who were already experiencing gender inequality and IPV prior to the outbreak [21]. This highlights the importance of fostering friendships, promoting social support, and enhancing neighborhood collective efficacy, such as mutual trust and community support in preventing IPV [17].

Nepal has made significant strides in addressing gender-based violence. A significant step among these was the ratification of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1991 [4]. Other noteworthy initiatives include the enactment of the Domestic Violence Act in 2009 [6,11] followed by the subsequent implementation of the National Action Plan 2010 Against Gender-Based Violence [24,25]. This strategic plan facilitated the establishment of a hospital-based One-stop Crisis

Management Center (OCMC) which provides comprehensive services to survivors [25]. Despite these efforts, however, it has become increasingly apparent that these measures, by themselves, have proven inadequate in effectively combating IPV.

With this study, we aimed to assess the prevalence of IPV experienced by married women of reproductive age during the COVID-19 pandemic in Nepal. Additionally, we sought to identify both the risk factors associated with IPV and the factors that influence help-seeking behavior in response to IPV. By examining these aspects, we hope to contribute to a comprehensive understanding of IPV in the specific context of a pandemic. Furthermore, through this study we provide valuable insights and evidence for developing policies, interventions, and support systems to effectively address and mitigate IPV, ensuring the well-being and safety of women during crises.

## 2. Materials and methods

### 2.1. Research design and study population

This is a cross-sectional, web-based study that was conducted from January 2021 to March 2021. The study population encompassed married women of the reproductive age group residing in Nepal who had access to internet service and were active on various social media platforms such as Facebook and Instagram. Reproductive age refers to females between ages 15 and 49 years old, as defined by the World Health Organization (WHO) [26].

### 2.2. Sample size calculation and sampling technique

Sample size ( $n$ ) was calculated using a standard sample size calculation formula:  $n = z^2pq/e^2$  at a 95% confidence interval [27]. Considering the estimated prevalence of IPV to be 26% from the 2016 Nepal Demographic and Health Survey [11], ( $p$ ) = 0.26,  $q = 1 - p = 0.74$ ,  $z = 1.96$ , and  $e = 0.045$ , the minimal sample size required was 365. To account for a potential non-response rate of 30%, we aimed to recruit a total sample size of 475 participants. However, after excluding missing or incomplete data, our final analysis included data from 420 participants.

The participant selection involved a combination of purposive and snowball sampling techniques. Initially, individuals who met specific criteria, including being married, belonging to the reproductive age group of 15–49 years, residing in Nepal, and actively using social media such as Facebook and Instagram from any devices, were purposefully selected. The online survey link was subsequently shared within closed social media groups focused on married women. Additionally, individuals from the researchers' contact list who met the inclusion criteria were also personally contacted and given access to the survey link. Participants who received the survey link were encouraged to share it with other married women in their contact lists, thus initiating a snowball sampling process. This approach allowed us to expand the reach of our study and engage a wider range of participants who might not have been directly connected to the researcher or the initial social media groups.

### 2.3. Research instrument

A validated questionnaire was adopted from the WHO [28] and the 2016 NDHS [11], which was then translated into the Nepali language to collect information from the participants. The translated questionnaire was independently back-translated into English to check for accuracy. The questionnaire consisted of five parts: socio-demographic, marital and family dynamics, violence, health-related issues secondary to violence, and willingness to seek help. Five forms of violence were included in the study: (i) physical violence, (ii) sexual violence, (iii) emotional abuse or violence, (iv) controlling behavior, and (v) economic violence. Among these, we included any type of violence faced by women from their partners during the COVID-19 period, starting in January 2020 when Nepal reported its first COVID-19 case [29]. In addition, we analyzed various factors associated with IPV, including ownership of property, participation in decision-making, the relationship between husband and wife, and behavior control, among others.

Prior to data collection, pre-testing was done among 30 participants who were selected by purposive sampling to assess the questions' feasibility, comprehension, and order. Their responses were not included in the final dataset.

### 2.4. Research procedure

The research procedure for the web-based survey involved the distribution of a closed-ended questionnaire using a Google Form. Participants were provided with the study's purpose, methodology, and other relevant information on the first page of the Google Form. Prior to proceeding with the survey, participants were requested to provide their informed consent. A clear statement was presented, explaining the voluntary nature of participation, assurance of confidentiality, and the right to withdraw at any time. Participants were required to provide their consent by checking a box indicating their agreement to participate in the study. After obtaining consent, participants were directed to the subsequent page containing the survey questionnaires and were instructed to select the appropriate response options for each question. Upon completing the survey, participants could submit their responses by clicking the designated "Submit" button at the end of the Google Form.

The Pro-forma filled by the respondents did not include any personal identifiers such as name or workplace. To ensure that each participant could only submit one response, they were required to log in to their email accounts before filling out the Google Form. Moreover, the senders' email addresses were not accessible to the analysis team once the responses were submitted. Access to the primary data was restricted to the principal investigator, who was responsible for handling and organizing the data. The principal investigator coded the primary information in the Excel dataset, ensuring consistency and accuracy in data analysis and interpretation.

**Table 1**  
Socio-demographic characteristics of the participants (N = 420).

Characteristics	Number of Participants (n)	Percentage (%)
<b>Age (years)</b>		
≤ 20	7	1.70
21-30	300	71.40
31-40	96	22.90
>40	17	4.00
<b>Province</b>		
Koshi	81	19.30
Madhesh	18	4.30
Bagmati	143	34.00
Gandaki	49	11.70
Lumbini	42	10.00
Karnali	16	3.80
Sudurpashchim	71	16.90
<b>Education</b>		
Primary & lower	4	1.00
Secondary & higher secondary	62	14.80
Bachelor	198	47.10
Master's & above	156	37.10
<b>Husband's education</b>		
Uneducated	1	0.20
Primary & lower	8	1.90
Secondary & higher secondary	72	17.10
Bachelor	144	34.30
Master's & above	195	46.40
<b>Income (dollar per year)</b>		
< 2500	75	17.90
2500-4200	131	31.20
4201-8400	123	29.30
> 8400	91	21.70
<b>Ownership of property</b>		
Yes	203	48.30
No	217	51.70
<b>Age at the time of marriage</b>		
<20	107	25.50
20-24	182	43.30
25-30	128	30.50
>30	3	0.70
<b>Family type</b>		
Single	179	42.60
Joint	241	57.40
<b>Caste</b>		
Brahmin	243	57.90
Chhetri	101	24.00
Janajati	57	13.60
Dalit	8	1.90
Madheshi	6	1.40
Others	5	1.20
<b>Residence</b>		
Rural	74	17.60
Urban	346	82.40
<b>Occupation</b>		
Student	76	18.10
Business	36	8.60
Teacher	41	9.80
Private organization	61	14.50
Civil Servant	73	17.40
Homemaker	114	27.10
Others	19	4.50
<b>Husband's Occupation</b>		
Unemployed	28	6.66
Student	22	5.23
Business	116	27.61
Teacher	38	9.04
Private organization	115	27.38
Civil Servant	80	19.04
Homemaker	13	3.09
Others	8	1.90
<b>Salary</b>		

(continued on next page)

Table 1 (continued)

Characteristics	Number of Participants (n)	Percentage (%)
Less than husband's	291	69.30
Equal to husband's	74	17.60
More than husband's	55	13.10
<b>Type of marriage</b>		
Arranged	188	44.80
Love	86	20.50
Arranged-Love	146	34.80
<b>Number of children</b>		
0	146	34.76
1	193	45.95
2	74	17.62
≥ 3	7	1.67

### 2.5. Statistical analysis

The collected data were carefully reviewed, organized, coded, and entered into MS Excel. Subsequently, the data were transferred to Statistical Package for the Social Sciences (SPSS) Version 20.0 for analysis. Descriptive statistics, such as frequency and percentage for categorical variables, were used to present the participants' general characteristics. Moreover, self-reported data were used to assess the prevalence of IPV and presented descriptively. The association between categorical variables and IPV was examined using Chi-square and Fisher's exact tests. P-values were calculated to determine the statistical significance of these associations. The test of significance was considered when the p-value was less than 0.05. Furthermore, univariate logistic regression analysis was performed to calculate odds ratios (OR) and identify variables that displayed significant associations with IPV. A multivariate logistic regression analysis was conducted to control for potential confounding variables identified in the univariate analysis.

### 3. Results

A total of 420 married women participated in this web-based study. The average age of the participants was 28.9 years. The majority (71.40%) fell within the age range of 21–30 years while smaller proportions were in the 31–40 years age range (22.90%) and above 40 years (4.00%). Only a few participants (1.70%) were below or at the age of 20. Similarly, most of the participants belonged to the Brahmin caste (57.90%), followed by Chhetri (24.00%), Janajati (13.60%), Dalit (1.90%), Madheshi (1.40%), and others (1.20%).

Participants were geographically distributed across different provinces, with the highest representation from Bagmati province (34.00%), followed by Koshi (19.30%), Sudurpashchim (16.90%), Gandaki (11.70%), Lumbini (10.00%), Madhesh (4.30%) and Karnali (3.80%). In terms of residence, the majority of participants resided in urban areas (82.40%), compared to rural areas (17.60%).

Regarding educational attainment, 47.10% of the females held a bachelor's degree, while 37.10% had completed a master's degree or higher. In contrast, the majority (46.40%) of the husbands had achieved a Master's degree or higher, while 34.30% had obtained Bachelor's degree. The proportion of female participants with primary education or lower was relatively low, accounting for only 1.00%, whereas the corresponding percentage for the husbands was slightly higher at 1.90%.

The occupation of the participants varied, with the largest group being homemakers (27.10%), followed by students (18.10%) and civil servants (17.40%). In contrast, a significant number of husbands were engaged in business (27.61%) and private organizations (27.38%) followed by civil service (19.04%). In terms of family income, approximately 17.90% of the participants reported an annual income of less than 2500 dollars, while 21.70% reported an income exceeding 8400 dollars. Similarly, the majority of the participants (69.30%) reported earning less than their husbands, 17.60% reported earning an equal salary to their husbands, and 13.10% reported earning more than their husbands. Exploring property ownership, approximately half of the participants (48.30%) reported owning property, while the remaining participants (51.70%) did not.

In terms of family types, 57.40% reported living in joint families, and 42.60% reported belonging to single-family households. When considering the age of marriage, a significant percentage (43.30%) got married between the ages of 20 and 24. Similarly, 30.50% of the participants got married between the ages of 25 and 30, while 25.50% of the participants got married before reaching their twenties. The majority (44.80%) of participants had an arranged marriage, 34.80% had an arranged-love marriage, and 20.50% had a love marriage. In relation to the number of children, 34.76% of the participants reported having no children, 45.95% reported having one child, 17.62% reported having two children, and 1.67% reported having three or more children [See Table 1].

In terms of the relationship with their husbands, the majority of participants described their relationship as good (75.50%). A smaller proportion reported having a normal relationship (19.30%), while a minority indicated that their relationship with their husbands was not good (5.20%). Similarly, a significant proportion of the participants (83.3%) reported active participation in decision-making processes. Regarding fear of their husbands, half of the participants reported experiencing fear sometimes (50.00%), while 41.40% of the participants never experienced fear, and around 8.60% of the participants experienced fear "mostly." When considering the frequency of quarrels with their husbands, a notable proportion of participants reported having quarrels sometimes (65.50%), followed by those who never had quarrels (23.30%). A smaller percentage of participants reported having daily quarrels with their husbands (11.20%). Regarding their husbands' alcohol consumption, a majority of participants reported that their husbands did not drink alcohol (60.00%) [See Table 2].

### 3.1. Prevalence and types of intimate partner violence

The study results indicate that more than half of the participants (52.62%) experienced IPV during COVID-19. Among the different forms of violence assessed, physical violence was reported by 21.43% of the participants, while 26.20% reported experiencing emotional violence. Furthermore, 14.05% of the participants reported sexual violence, and 38.81% faced economic violence. Additionally, behavior control was reported by 37.14% of the participants [See [Table 3](#)].

### 3.2. Injuries due to physical and sexual violence and help-seeking behavior

Among participants who had experienced physical and sexual forms of IPV, 28.85% reported having wounds as a result of the violence, and of those, 30.23% reported having deep wounds. Similarly, 1.34% of the participants reported having an abortion or stillbirth after the violence. Only 14.00% of the participants reported seeking help, while the majority (86.00%) did not seek help. Among those who sought help, the most common sources were family (42.85%), followed by friends (38.09%), neighbors (9.52%), and others (9.52%).

Furthermore, around one-third of the participants (33.55%) reported talking to others about their situation. Only a small portion (6.00%) filed a police report against the violence while the majority (94.00%) did not. Among those who did not file a police report, reasons included concern about children's future (34.22%), fear of separation from children (30.20%), the belief that their husband would change (30.20%), fear of retaliation from the husband (4.69%), less economic support (4.69%), and lack of family support (2.68%) [See [Table 4](#)].

### 3.3. Factors associated with IPV after univariate and multivariate analysis

In the univariate analysis, several factors were found to be associated with an increased risk of IPV. These factors include the husband's education and occupation, the number of children, ownership of property, amount of time spent quarreling, participation in decision-making, male alcohol consumption, perceived satisfaction with partner relationship, and whether or not fear played a role in the relationship. In the multivariate model, after adjusting for other variables, three factors were found to be significantly associated with IPV: participation in decision-making, quarreling, and a fearful environment. The women who participated in decision-making had 2.52 times greater chance of experiencing violence [Adjusted Odds Ratio (AOR) = 2.52, 95% Confidence Interval (CI) = 1.02–6.23]. In addition, women who occasionally quarreled with their husbands had a 3.41 times higher chance of experiencing violence (AOR = 3.41, 95%CI = 1.03–11.24), while those who quarreled with their husbands on a daily basis had a 5.47 times higher chance of experiencing violence (AOR = 5.47, 95%CI = 1.54–19.44) compared to those who never quarreled. Moreover, women who mostly feared their husbands had a significantly greater chance of experiencing violence (AOR = 16.62, 95% CI = 2.02–136.48) compared to those who were never afraid. Similarly, women who occasionally feared their husbands also had a higher chance of experiencing violence (AOR = 8.41, 95% CI = 1.04–68.04) compared to those who were never afraid (See [Table 5](#)).

## 4. Discussion

### 4.1. Prevalence of IPV during the pandemic

Our study findings revealed a high prevalence of IPV among women in Nepal, with more than half of the participants (52.62%) experiencing at least one form of IPV. This reported prevalence is twice the magnitude of IPV reported by NDHS in 2016 and is even

**Table 2**  
Relationship factors among participants (N = 420).

Characteristics	Number of participants (n)	Percentage (%)
<b>Participation in decision-making</b>		
Yes	350	83.30
No	70	16.70
<b>Husband drink alcohol</b>		
Yes	168	40.00
No	252	60.00
<b>Afraid of Husband</b>		
Never	174	41.40
Sometimes	210	50.00
Mostly	36	8.60
<b>Quarrel with Husband</b>		
Daily	47	11.20
Sometimes	275	65.50
Never	98	23.30
<b>Relationship with husband</b>		
Good	317	75.50
Normal	81	19.30
Not good	22	5.20

**Table 3**  
Prevalence and types of intimate partner violence (N = 420, multiple responses allowed).

Types of violence	Number of Participants (n)	Percentage (%)
Physical	90	21.43
Emotional	110	26.20
Sexual	59	14.05
Economic	163	38.81
Behavior Control	156	37.14
Overall IPV	221	52.62

**Table 4**  
Injuries due to physical and sexual type of IPV and help-seeking behavior (N = 149).

Characteristics	Number of participants (n)	Percentage (%)
<b>Wound</b>		
Yes	43	28.85
No	106	71.15
<b>Deep wound (N = 43)</b>		
Yes	13	30.23
No	30	69.76
<b>Abortion/Stillbirth</b>		
Yes	2	1.34
No	147	98.66
<b>Sought help</b>		
Yes	21	14.00
No	128	86.00
<b>If yes, most sought help from (N = 21)</b>		
Family	9	42.85
Friends	8	38.09
Neighbors	2	9.52
Others	2	9.52
<b>Talked to others</b>		
Yes	50	33.55
No	99	66.44
<b>Filed a police report</b>		
Yes	9	6.00
No	140	94.00
<b>Reason for not filing a police report (multiple responses allowed)</b>		
Fear of retaliation from husband	7	4.69
Less economic support	7	4.69
Lack of family support	4	2.68
Fear of separation from children	45	30.20
Belief that their husband would change	45	30.20
Concern about children's future	51	34.22

higher than the global prevalence of IPV as per the WHO.

This aligns with several other studies conducted in different regions and countries, which have consistently reported high rates of IPV during the pandemic [30–33]. Domestic violence incidences in the USA increased by 8.1% after governments enforced pandemic-related lockdown orders, according to an analysis of 12 USA studies [32]. Brink et al. (2021) [34] examined the dynamics of IPV in 11 European countries during the early phases of the pandemic and results revealed that most countries (6 out of 11) experienced an increase in IPV, with four reporting a substantial rise of over 40% [34]. Similarly, a study done in 2020 in the USA showed that the majority (64.2%) of individuals affected by IPV during the COVID-19 pandemic were either encountering it in previously non-abusive relationships (34.1%) or experiencing heightened severity or frequency of abuse (26.6%) [35].

Our findings indicated a significant rise in the occurrence of emotional violence (26%) and sexual violence (14%) compared to the pre-pandemic data reported in 2016 NDHS which documented rates of 12% and 7% respectively [11]. In contrast, we observed a slight decrease in the reported prevalence of physical violence (21%) in our study compared to the 2016 NDHS (23%) [11]. This data is similar to that of a study conducted by the I-SHARE Consortium in 30 countries which reported a decrease in the prevalence of physical violence from 6.3%, before the implementation of COVID-19 restrictions, to 5.0% during the period of restrictions [36]. This decrease might be attributed to women developing strategies for mitigation, such as submission and conflict avoidance, due to their constant contact with their aggressors. Moreover, the aggressors potentially gained greater control over households, which might have led to an increase in emotional and sexual violence [37]. However, after the lockdown, physical or sexual violence afflicted more than 7% of women in France, and most cases of abuse involved unwanted sexual contact, although physical and sexual assault were also frequent [33]. Furthermore, a study conducted at an urban medical center in Northeastern USA showed that the prevalence of physical IPV during the COVID-19 pandemic (2020) was 1.8 times higher than the study conducted before the pandemic (2017–2019) [38].



**Table 5**  
Univariate and multivariate analysis of factors associated with IPV (N = 420).

Characteristics	Univariate analysis			Multivariate Analysis		
	OR	95% CI	P-value	OR adjusted	95% CI	P-value
<b>Husband's education</b>						
Primary & lower	1	1	1			
Secondary & higher secondary	3.75	0.44–31.82	0.22			
Bachelor	7.78	0.94–63.81	0.05*	1.00	0.04–20.74	0.99
Master's & above	9.14	1.12–74.49	0.03*	1.01	0.04–21.06	0.99
<b>Husband's Occupation</b>						
Unemployed	1	1	1			
Student	7.00	1.18–41.35	0.03*	0.97	0.08–10.68	0.98
Business	3.50	0.94–12.91	0.06			
Teacher	4.66	1.07–20.19	0.03*	0.44	0.06–3.36	0.43
Private organization	5.88	1.59–21.71	<0.01*	0.53	0.08–3.49	0.51
Civil servant	4.27	1.12–16.23	0.03*	0.45	0.06–3.08	0.42
<b>Number of children</b>						
0	1	1	1			
1	0.60	0.39–0.92	0.02*	0.85	0.50–1.45	0.57
2	0.34	0.19–0.62	<0.01*	0.58	0.28–1.19	0.14
≥ 3	0.28	0.05–1.52	0.14			
<b>Ownership in property</b>						
Yes	1	1	1			
No	1.91	1.29–2.82	<0.01*	1.20	0.74–1.94	0.43
<b>Participation in decision-making</b>						
No	1	1	1			
Yes	7.82	3.76–16.26	<0.01*	2.52	1.02–6.23	0.04*
<b>Husband drink alcohol</b>						
No	1	1	1			
Yes	1.72	1.16–2.56	<0.01*	1.28	0.79–2.06	0.31
<b>Quarrel with husband</b>						
Never	1	1	1			
Sometimes	9.22	3.22–26.40	<0.01*	3.41	1.03–11.24	0.04*
Daily	24.36	8.02–74.00	<0.01*	5.47	1.54–19.44	<0.01*
<b>Relationship with husband</b>						
Good	1	1	1			
Normal	4.77	0.59–38.31	0.14			
Not good	28.67	3.81–215.80	<0.01*	6.58	0.67–63.99	0.10
<b>Afraid of Husband</b>						
Never	1	1	1			
Sometimes	66.50	8.89–497.40	<0.01*	16.62	2.02–136.48	<0.01*
Mostly	23.33	3.13–173.50	<0.01*	8.41	1.04–68.04	0.04*

#### 4.2. Impact of lockdown measures and economic downturn on IPV

Various factors could be implicated in triggering the increased incidence of IPV during COVID-19. Increased stress associated with lockdown and isolation situations served a significant role [39]. Economic devastation created uncertainty and disconnected people from their community, which led to increased violence [40]. Self-isolation, stay-at-home orders, social distancing measures, and recession were terrifying to many women facing IPV [41]. Because of the restrictive measures imposed by the government, women were forced to stay at home with their abusive partners with little or no possibility of getting in touch with their family and friends who might offer support. Additionally, the economic downturns placed considerable financial strain on numerous families, potentially leading to heightened levels of unhealthy conflict, family breakdown, abuse, depression, and domestic violence [42]. Economic uncertainty, unemployment, and social instability increased alcohol use which, in turn, has been identified as a contributing factor to the rise in cases of IPV [42,43]. Moreover, the pandemic may have exacerbated pre-existing psychological disorders of violent partners, thus putting women at much greater risk of IPV [44].

#### 4.3. Influence of socio-demographic factors on IPV

Various studies have shown that individual perceptions and community practices affect the risk of IPV in Nepal [4,45]. The risk factors examined in our study, including young age, low economic status, and lower education level, did not show significant associations, however. This could be attributed to the characteristics of our study population, which consisted of women with internet access and an education level needed to engage with social media platforms and complete the questionnaire. Considering that Nepal has an adult female literacy rate of 59.72% [46] and internet access is limited to approximately 38% of the total population [47], there is a possibility of selection bias in our study.

Likewise, husband's educational status and wife's contribution to family income were linked with the occurrence of IPV. Although statistically insignificant, our study showed that husbands with a master's or higher level of education were more involved in



committing IPV and that there was a decreased incidence of IPV when the wife's salary was equal to or more than the husband's salary. A study conducted in north-western Tanzania by Abramsky et al. (2019) yielded similar findings to our study. They found that higher income was associated with a reduced risk of physical and sexual IPV in the previous year. This association was attributed to several factors, including decreased arguments over the partner's inability to support the family, improved dynamics within the relationship, an increased likelihood of relationship dissolution, and decreased household hardship [48]. On the other hand, findings from an Australian study (2021), revealed that IPV rises as women earn more than men [49]. In addition, our study also showed an increased incidence of IPV among women with no property ownership, but this was not statistically significant. In a similar study [50], husbands with higher education exhibited higher levels of emotional violence rather than physical violence. This could be attributed to the husband's perception that his higher educational status should deter him from resorting to force in conflicts while simultaneously maintaining traditional beliefs of women's inferiority.

In contrast to this, a study by Ahinkorah et al. [51] showed the husband's educational status to be inversely related to IPV experienced by women. This could result from increased awareness of women's rights among educated men. Similarly, the increased risk of IPV among women having a low contribution to household income was shown in several other studies [52–55].

These studies also showed an association between alcohol consumption among husbands and IPV. Although not significant, our study also had an increased incidence of IPV among women whose husbands drank alcohol. The reason for this could be the impact of alcohol on cognition, problem-solving abilities, and heightened risk-taking tendencies after the consumption of alcohol. In addition, our study found that women with fewer children were more likely to suffer IPV (statistically insignificant). Moreover, the type of family was found to be statistically insignificant related to the incidence of IPV. However, in other studies [55,56], the increased family size was actually found to be protective against women.

#### 4.4. Role of relationship factors on IPV

The quality of the relationship also had an important association with the occurrence of IPV. In our study, although a bad relationship between husband and wife contributed to IPV, it was statistically insignificant. However, we obtained statistically significant evidence that women who were afraid of their husbands and got involved in day-to-day quarrels were more likely to experience IPV. The relationship between husband and wife and its association with IPV has also been examined in other studies. For example, in a study by Tu X et al. in China, low relationship quality and acceptance of wives being beaten by husbands were found to be risk factors for IPV [50].

#### 4.5. Influence of decision-making roles on IPV

Role in decision-making has also been found to influence the incidence of IPV [50]. Zegenhagen S et al. conducted a study comparing the association of IPV with the husband's sole decision-making and husband-wife's joint decision-making. Interestingly, when women's self-reported data was considered, participation in decision-making was not found to be associated with IPV. However, when men's self-reported data was taken into account, it revealed a higher incidence of IPV in cases where women were involved in joint decision-making [57]. Our study showed a statistically significant association with IPV being higher in women who participated in decision-making. One possible explanation for this finding is that men may perceive women's participation in decision-making as challenging traditional gender roles within the household [58]. In addition, the COVID-19 pandemic has forced couples to spend more time together in confined spaces, potentially leading to increased conflicts [59]. In our study, it is plausible that the combination of the increased frequency of quarrels and the wife's involvement in decision-making could have escalated disagreements, potentially resulting in instances of violence.

#### 4.6. Help-seeking behavior by victims and impact on women's health and well-being

The socio-demographic factors, education, and characteristics of the violence are the major factors that influence help-seeking behavior during violence [60]. Our study showed that only 14% of the IPV victims (physical and sexual) sought help from others. Several studies have shown exceptionally low rates of help-seeking behavior among IPV victims during the pandemic. Before the pandemic, approximately 35% of people affected by IPV sought help in developing countries [61]. In India, around 24% [60] of individuals affected by IPV displayed help-seeking behavior, while in Nepal, the figure was approximately 34% [11].

The decline in help-seeking behavior during the COVID-19 situation can be attributed to factors such as reduced economic support, fear of separation from children, fear of retaliation from partners, and limited family support and love. Strict social isolation, travel restrictions, diminished community support, and increased distress levels during the pandemic further hindered help-seeking. In addition, the closure of courts made obtaining protection orders challenging, which may have discouraged reporting by the victims [41]. Our study found that most women sought help from their own family and friends, similar to a study conducted in Tanzania [62]. Lockdown and quarantine measures implemented during the pandemic made it even more difficult for IPV survivors to seek safety and community support. Consequently, IPV survivors or victims faced significant barriers in escaping a violent situation, seeking external support, or obtaining protection from law enforcement authorities [63].

Experiencing IPV has serious implications for women's physical, mental, and behavioral well-being. It increases the risk of injuries, suicide, unwanted pregnancies, miscarriages, stillbirths, fetal injuries, and child mortality [1]. According to the WHO, women exposed to IPV are twice as likely to experience depression, have a 16% higher chance of giving birth to low-weight babies, are 1.5 times more likely to acquire HIV and AIDS and other sexually transmitted diseases, have a 42% higher risk of injuries, and have nearly 38% higher

mortality rates [64]. IPV undermines women's productive lives and their ability to live happily [10].

## 5. Implications and recommendations

The prevalence of IPV has significantly increased during the COVID-19 pandemic, both in Nepal and globally, highlighting the urgent need for effective prevention and intervention strategies. The reported cases and help-seeking behavior among the victims were remarkably low, indicating a significant gap in support systems and services. Therefore, it is crucial to enhance awareness and accessibility of resources for IPV victims, ensuring they have the necessary means to seek help and protection. Moreover, comprehensive public health strategies should be developed and implemented to address IPV during public health emergencies.

Our study identified certain factors that played important roles in increasing IPV, such as participation in decision-making, frequent quarrels, and partner-based fear. Addressing these factors can contribute to reducing IPV among married women. Strategies that promote financial stability, such as economic empowerment programs for women, can provide them with greater independence and reduce their vulnerability to abuse. Additionally, efforts to promote gender equality, challenge harmful gender norms, and foster healthy relationship dynamics can help mitigate the risk of IPV. Moreover, strengthening family and social support systems is crucial. Creating safe spaces where victims can seek assistance and confide in trusted individuals is essential. Community-based interventions and support networks can play a vital role in providing emotional support, counseling, and referrals to specialized services.

This study provides an initial understanding of the prevalence and factors associated with IPV during the pandemic. We recommend conducting a more comprehensive and detailed study to explore these aspects further. A multilevel analysis would help unravel the complex dynamics of violence and identify the root causes underlying IPV, enabling the development of targeted and evidence-based interventions. By systematically implementing these recommendations, policymakers, healthcare professionals, and communities can work together to mitigate the impact of IPV during public health emergencies like the COVID-19 pandemic. This collaborative approach will ensure the safety, well-being, and empowerment of individuals affected by IPV, ultimately creating a society free from violence and promoting healthy relationships.

## 6. Limitations

Our study is not exempt from limitations, and methodological variations could also play a part. Firstly, the inclusion of women of reproductive age limits the generalizability of our results to women outside of this age range, potentially missing important insights into IPV among older women. In addition, our focus on married women means we may have overlooked IPV experiences among individuals in non-marital relationships or cohabitating partnerships. This narrows our understanding of IPV within these specific relationship contexts. Next, the sample used in the study consisted of women with internet access and familiarity with social media platforms, potentially introducing sampling bias and limiting the generalizability of the findings. Additionally, the prevalence in our study is based on self-reported data. Reliance on self-reporting by participants may have led to recall bias or social desirability bias, potentially underestimating the true prevalence of IPV.

The cross-sectional design employed in the study provides a snapshot but does not establish causal relationships or capture temporal changes. Furthermore, the absence of qualitative data limits understanding of contextual factors and individual experiences related to IPV. Moreover, severe cases of IPV may be underrepresented as the study primarily relies on internet-based participation. It is important to note that the estimates obtained through our study reflect the characteristics and experiences of the sampled participants, and caution should be exercised when extrapolating these findings to the entire population. Recognizing these limitations is essential for interpreting the findings appropriately and identifying areas for further research to enhance our understanding of IPV among married women in Nepal during the pandemic.

## 7. Conclusion

Our study highlights the concerning prevalence of IPV among married women of reproductive age in Nepal during the COVID-19 pandemic. The findings underscore the urgent need for effective interventions to address this issue. However, we also observed alarmingly low reporting rates and help-seeking behavior among the victims. Factors such as participation in decision-making, frequent quarrels with husbands, and fear of husbands played significant roles in increasing IPV. To effectively address these issues, it is imperative to adopt comprehensive approaches that encompass key elements such as promoting financial stability, empowering women, and providing robust family and social support systems. Nevertheless, we recommend conducting additional detailed studies to further explore the facilitators, barriers, and associated factors related to IPV prevalence and help-seeking behavior. This research will provide invaluable insights that can guide the development of targeted strategies for the prevention and response to IPV. Furthermore, understanding the interconnected factors at the individual, relationship, community, and societal levels will provide a holistic perspective on the issue and guide the implementation of effective interventions.

## Ethics statement

Ethical approval was obtained from the Institutional Review Committee of Nobel College, Kathmandu, Nepal (reference number: MPHIRC530/2021). Informed consent was obtained from all participants before proceeding with the survey.

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## Data availability statement

All data relevant to the study are included in the article or uploaded as supplementary information.

## Author contribution statement

NB and BB<sup>1</sup> designed the study, reviewed the literature, developed the research protocol, and collected, curated and analyzed data. GG provided input in design of the study, processed for ethical approval, and collaborated in the field. BB<sup>1</sup>, BB<sup>2</sup>, SB, AP, RS, SM, SP, NK managed data collection. BB<sup>1</sup>, NB, AK, BN, RAS contributed to data interpretation. NB and BB<sup>1</sup> wrote the first draft and received input from BB<sup>2</sup>, SB, AP, AK, SN, RS, NK, SP, SM, BN, SS, RLT during revision. AK, SN, BN, RAS reviewed the manuscript critically. NB, SN, SM, AP, SB, BB<sup>1</sup>, BB<sup>2</sup> contributed to manuscript revision based on reviewer comments. All authors read and approved the final manuscript.

## Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used, ChatGPT/OpenAI in order to refine the language, check grammar, and organize the content into proper sentences while preserving their original ideas. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Abbreviations

IPV	Intimate Partner Violence
WHO	World Health Organization
NDHS	Nepal Demographic and Health Survey

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e20117>.

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