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Intimate Partner Violence against Women and its Association with Miscarriage, Stillbirth, and Abortion among Married Women in Myanmar: Evidence from Demographic and Health Survey 2015–2016

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Abstract

Background: Almost one in four ever-partner women aged 15-49 years worldwide has ever experienced intimate partner violence against women (IPVAW). It is a known risk factor for unintended pregnancy that can end in pregnancy termination, such as miscarriage, stillbirth, and abortion (MSA). There is increasing evidence that IPVAW is associated with MSA. However, its research in Myanmar, which may benefit strategies to reduce the number of MSA, is scarce.

Objectives: This study aimed to explore the association between IPVAW and pregnancy termination among married women aged 15-49 years in Myanmar.

Methods: This study used secondary data from the Myanmar Demographic and Health Survey (MDHS) 2015-2016. A weighted data of 3,353 married women in Myanmar were included in this study. Weighted bivariate and multivariable analysis using simple logistic regression and multiple logistic regression, respectively, were used in analyzing the data. The results were presented as crude odds ratio (COR) and adjusted odds ratio (AOR) with 95% Confidence Intervals (CIs). The analysis was conducted by taking into account the survey weight and design.

Results: Among the study sample, 16.20% (95%CI: 14.98% to 17.48%) experienced pregnancy termination. The odds of having pregnancy termination were higher among married women who had ever experienced IPVAW compared to those who had never experienced IPVAW [COR = 1.62, 95%CI: 1.27 – 2.08], and this persisted after controlling for confounders [AOR = 1.60, 95%CI: 1.23 – 2.07].

Conclusion: Strategies to reduce the number of pregnancy terminations among married women in Myanmar should give heightened attention to those with a history of IPVAW.

Keywords

Abortion, Intimate partner violence, Maternal health, Miscarriage, Pregnancy termination, Reproductive health, Stillbirth

Introduction

Intimate partner violence against women (IPVAW) is a prevalent public health issue and a violation of human rights **(1)**. IPVAW involves physical, sexual, and psychological violence or is often used interchangeably with emotional violence **(2)**. It includes but is not limited to slapping, shoving, being threatened with weapons; having sexual intercourse out of fear or through coercion or forcing a partner to have sex without protection from sexually transmitted infections (STIs) and pregnancy; controlling behavior or any act that damages women's self-esteem **(2–5)**. Women often experience more than one form of violence in different combinations (**6**). Globally, IPVAW affects almost one in three ever-partner women aged 15-49 years worldwide and tends to be more prevalent in low- and middle-income countries (LMICs) than in high-income countries (HICs) **(7).**

Miscarriage, stillbirth, and abortion are major public health issues **(8–10)**. Miscarriage is the pregnancy loss before viability, with an estimated 23 million miscarriages occurring every year worldwide **(10)**. A stillbirth is a baby at 28 weeks gestation who is born with no signs of life, with the global stillbirth rate in 2022 being 13.9 stillbirths per 1,000 total births. Still, this number may be underestimated, as stillbirths are often underreported **(9)**. In addition, six out of ten of all unintended pregnancies and three out of ten of all pregnancies end in induced abortion **(11).** Concerning IPVAW, it has physical, mental, sexual, and reproductive health consequences for the victims **(12,13).** Particularly in maternal health, it is associated with having low birth weight and preterm birth, abortions, stillbirths, miscarriages, unwanted pregnancy, postpartum depressive symptoms, and STIs **(12,14,15)**. Miscarriages, induced abortions, and stillbirths are paramount concerns and common adverse pregnancy outcomes **(16).**

Myanmar is a lower-middle-income country with 54 million people in the Greater Mekong Subregion in Southeast Asia **(17,18)**. The prevalence of spousal violence by former or current husbands against ever-married women aged 15-49 years was estimated to be 21% in 2015–2016 MDHS **(19).** Despite the relatively high prevalence of IPVAW, Myanmar has no key national policy or guidelines for multisectoral action plans for violence against women **(20).** Stillbirth rate (per 1000 births) is 14 **(20)**. Abortion in Myanmar is highly restricted and causing miscarriage/conducting abortion is permitted only to save the life of the woman **(21).**

While numerous studies have explored the prevalence of intimate partner violence and its connection to pregnancy termination in different settings **(22–32)**, there is, to the best of the authors' knowledge, a lack of research assessing the link between intimate partner violence and pregnancy termination among Myanmar women using a nationally representative sample. The absence of such studies highlights a gap in the existing literature that requires attention. Consequently, there is a clear need to investigate intimate partner violence against married Myanmar women and its potential association with miscarriage, stillbirth, and abortions.

In conclusion, this study aims to examine the association of IPVAW and miscarriage, stillbirth, and abortion (MSA) in Myanmar. This study applied the 2015–2016 MDHS data to accomplish the aim. It is hypothesized that IPVAW is associated with miscarriages, induced abortions, or stillbirths. Findings from this study can guide interventions that seek to advance maternal and child health and gender equality simultaneously and give a push to a national policy or guidelines for multisectoral action plans for violence against women.

Materials and Methods

Study design

The present study employed a cross-sectional research approach and used secondary data from a nationally representative survey. This survey incorporated standardized questionnaires and was part of a global Demographic and Health Surveys (DHS) program, which included a module specifically focused on domestic violence **(19)**.

Setting and Participants

The study in Myanmar was undertaken by the Ministry of Health and Sports (MoHS) from December 7, 2015, to July 7, 2016. It received funding from the United States Agency for International Development (USAID) and the Three Millennium Development Goal Fund. Three questionnaires were employed in the 2015-2016 Myanmar Demographic and Health Survey (MDHS). These included a Household Questionnaire, a Woman's Questionnaire, and a Man's Questionnaire. These questionnaires were initially designed for the global Demographic and Health Survey (DHS) program but were subsequently adapted to align with the cultural context of Myanmar. The module on domestic violence was administered to a single female participant within each family as part of the subsample of families chosen for the male survey. The methodology employed in the 2015-2016 MDHS involved a sample design stratified and implemented in two stages. The primary sampling units (PSUs) used in the study were derived from a master sample including 76,990 units. These PSUs were selected and stratified, with the selection probability proportional to the size (PPS) of each unit. The master sample was based on the 2014 census frame. In the initial phase, a total of 442 clusters were chosen from the master sample, comprising 123 urban clusters and 319 rural clusters. For the subsequent phase, 30 houses were chosen from each cluster, resulting in a sample size of 13,260 households—the selection process employed equal probability systematic sampling. The poll was conducted in 441 clusters due to concerns over insecurity.

Variables and Measurements

The outcome variables are miscarriage, abortion, or stillbirth, which were derived from the question of whether the respondent ever had a pregnancy that terminated in among those conditions. Responses were coded 0 = “No” and 1 = “Yes”.

The variables representing exposure encompass various forms of intimate partner violence against women (IPVAW). Physical violence was assigned a 'Yes' if the husband engaged in actions such as pushing, shaking, throwing objects, slapping, punching, kicking, dragging, attempting strangulation, burning, or threatening or attacking with a knife, gun, or other weapons. Sexual violence was marked as 'Yes' if

the individual experienced coerced physical sex or other unwanted sexual acts by the husband. Emotional violence was labeled as 'Yes' if the husband humiliated, threatened, or insulted her; otherwise, it was coded as 'No'.

The potential confounding variables are (i) maternal age, (ii) total children ever born, (iii) wealth index, (iv) educational level (no education, primary, secondary, and higher), (v) residence (urban and rural), (vi) employment status (unemployed and employed), and (vii) marital control by the husband.

Statistical methods

The weighted data of 3,353 married and interviewed women will be analyze after removing all the missing and "do not know" responses. The authors will use descriptive statistics to summarize the characteristics of the study sample. Crude odds ratios (CORs) between different forms of intimate partner violence and possible associations with miscarriages, stillbirths, and abortions will be estimated using simple logistic regression. The multicollinearity of the model will be assessed by calculating the variance inflation factor (VIF). Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) from multiple logistic regression will be reported, and p-values less than 0.05 are considered statistically significant. The authors will use the software STATA version 14.2 to conduct the analyses.

Ethical Approval and Consent to Participate

The secondary data sets analyzed are publicly available and accessible upon request from the DHS website at https://dhsprogram.com/data/available-datasets.cfm. The DHS program approved using the data set for this study.

Results

Demographic Characteristics

Table 1 shows the baseline characteristics of married women who experienced a pregnancy termination (miscarriage, stillbirth, abortions), where 20.61% of the sample experienced any form of IPVAW. Most of the sample are from 30-39 years age group (41.12%), having one to four children ever born (77.62%), having primary as the highest educational level (57.16%), residing in the rural area (75.68%), and were currently working (72.04%).

Table 1: Baseline characteristics of the sample

Characteristics (N = 3,353)	Frequency (n)	Percentage (%)
IPVAW		
No	2,662	79.39
Yes	691	20.61
Age group		
15-29	970	28.93
30-39	1,379	41.12
40-49	1,004	29.95
Total children ever born		
0	337	10.07
1-4	2,603	77.62
5-8	387	11.54
9-12	26	0.77
Wealth index		
Poorest	806	24.04
Poorer	701	20.91
Middle	663	19.78
Richer	612	18.25
Richest	570	17.01
Highest educational level		
No education	507	15.12
Primary	1,652	57.16
Secondary	953	28.42
Higher	241	7.20
Residence		
Urban	815	24.32
Rural	2,538	75.68
Employment status		
Unemployed	937	27.96
Employed	2,416	72.04

Marital control by husband		
No	2,412	71.92
Yes	941	28.08

Association between Variables and Miscarriage, Stillbirth, and Abortion

The results of the weighted bivariate and multiple logistic regression analysis (Table 2) shows that the odds of having MSA were higher among married women who had ever experienced IPVAW compared to those who had never experienced IPVAW [COR = 1.62, 95%CI: 1.27 – 2.08], and this persisted after controlling for confounders [AOR = 1.60, 95%CI: 1.23 – 2.07], which were age group, total children ever born, wealth index, maternal highest educational level, residence, employment status, and marital control by husband.

Table 2: Results of weighted bivariate and multivariable analysis of intimate partner violence against women (IPVAW), selected socio-demographic variables on miscarriage, stillbirth, and abortion (MSA) among ever-married Myanmar women (N = 3,353).

Factors	Number of samples	% of Miscarriage, stillbirth, and abortion (MSA)	COR	AOR [95% CI]
Overall	3,353	16.18	N/A	N/A
IPVAW				
No	2,662	13.13	Ref.	Ref.
Yes	691	19.67	1.62	1.60 [1.26-2.02]
Age group				
15-29	970	8.91	Ref.	Ref.
30-39	1,379	15.17	1.82	1.86 [1.41-2.45]
40-49	1,004	18.89	2.38	2.48 [1.84-3.33]
Total children ever born				
0	337	11.77	Ref.	Ref.
1-4	2,603	14.35	1.26	0.98 [0.68-1.41]
5-8	387	17.29	1.57	0.95 [0.60-1.50]
9-12	26	19.83	1.85	0.99 [0.34-2.85]
Wealth index				
Poorest	806	14.42	Ref.	Ref.
Poorer	701	14.38	1.00	0.98 [0.73-1.31]
Middle	663	13.35	0.91	0.89 [0.66-1.22]
Richer	612	13.42	0.92	0.95 [0.68-1.33]
Richest	570	17.09	1.22	1.23 [0.84-1.81]
Highest educational level				
No education	507	14.03	Ref.	Ref.
Primary	1,652	15.40	1.11	1.11 [0.82-1.48]
Secondary	953	12.77	0.90	0.92 [0.65-1.31]
Higher	241	15.79	1.15	1.04 [0.64-1.69]
Residence				
Urban	815	15.71	Ref.	Ref.
Rural	2,538	14.08	0.88	0.99 [0.75-1.32]
Employment status				
Unemployed	937	14.95	Ref.	Ref.
Employed	2,416	14.29	0.95	0.89 [0.71-1.11]
Marital control by husband				
No	2,412	13.52	Ref.	Ref.
Yes	941	16.91	1.30	1.23 [0.98-1.54]

Discussions

IPVAW is the most common form of violence against women, which includes all physical, sexual, or emotional harm as well as controlling behaviors aggravated by a former or current partner (1). Results of weighted bivariate and multivariable analysis. Overall, the findings from our study revealed a 16.18% prevalence of pregnancy termination among married women in Myanmar. The discovery of an elevated rate of abortion among women who encountered partner violence in our study aligns with the findings of earlier research conducted in the same field in Bangladesh **(30)**, India **(33)**, Nepal **(28,34–36)**, and Pakistan **(37)**.

Also, women subjected to partner violence may encounter pregnancy coercion, a phenomenon frequently associated with reduced contraceptive utilization and an increased incidence of unintended pregnancies **(38)**. In a study exploring pregnancy intentions, it was discovered that women in abusive relationships were more prone to expressing that the pregnancy had been forced upon them by their partners **(39)**. Another study indicated that intimate partner violence (IPV) was 1.8 to 3.8 times more likely to be associated with pregnancies resulting in abortion and was correlated with instances of sexual coercion **(40)**.

Also, Women in violent relationships are at a higher risk of undergoing pregnancy termination due to feeling emotionally, socially, and financially unprepared to raise a child in an abusive environment. These factors can significantly impact a woman's decision to pursue an abortion **(41)**. In addition, the higher rate of abortion among women who experience intimate partner violence (IPV) can be attributed to the significant association between IPV and adverse reproductive health outcomes.

Research has consistently shown that women in abusive relationships are more likely to have a history of abortion **(42)**. Studies have indicated that IPV is linked to involuntary pregnancy loss and induced abortion, with a substantial proportion of women reporting these experiences in the context of IPV **(22,29)**. Furthermore, women facing IPV are at a greater risk of induced abortions, and a higher rate of previous abortions, including miscarriage and unsafe abortions, has been observed among women with severe acute maternal morbidity **(43)**. Multiple analysis has also demonstrated that women experiencing violence from their partners are more likely to experience pregnancy loss and abortion **(44)**.

The relationship between IPV and abortion is complex, with women experiencing IPV justifying the violence and blaming themselves, which can lead to poor social and health outcomes, including a higher likelihood of seeking abortion **(45,46)**. Moreover, seeking induced abortion unaccompanied and using medication abortion have been identified as strategies to access abortion covertly among women experiencing IPV, reflecting the additional barriers and safety concerns they face **(47)**.

Strength and Limitations

The strength of this study lies in its generalizability, as it represents married women from across Myanmar in the 2015-2016 period. One of the limitations of this study is its cross-sectional design, which prevents the establishment of causal inference due to the use of the 2015-2016 MDHS dataset. The sensitive nature of the questions and the possibility of social desirability bias may have led to an underestimation of the prevalence of intimate partner violence against women (IPVAW).

Conclusions

This study verified the high burden of intimate partner violence against women (IPVAW) among ever-married Myanmar women. It also revealed a high prevalence of pregnancy termination and its strong association with lifetime physical, sexual, and emotional IPVAW in Myanmar. This study asserts that pregnant women facing any type of intimate partner violence against women (IPVAW) in Myanmar are at an increased likelihood of undergoing pregnancy terminations. To effectively recognize victims of intimate partner violence (IPV), public health interventions within maternity health services should incorporate early screening, identification, and prompt management of IPVAW. Therefore, strategies to reduce the number of pregnancy terminations among married women in Myanmar should give heightened attention to those with a history of IPVAW.

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