Intimate partner violence as a predictor of marital disruption in sub-Saharan Africa: A multilevel analysis of demographic and health surveys

Abdul-Aziz Seidu a,b,c, Richard Gyan Aboagye d, Bright Opoku Ahinkorah e, Collins Adu f,g, Sanni Yaya g,h

a Department of Population and Health, University of Cape Coast, Cape Coast PMB TF0494, Ghana
b College of Public Health, Medical and Veterinary Services, James Cook University, Townsville, Queensland, QLD, 4811, Australia
c Takoradi Technical University, P.O.Box 256, Takoradi, Ghana
d Department of Family and Community Health, School of Public Health, University of Health and Allied Sciences, Ho PMB 31, Ghana
e Faculty of Health, School of Public Health, University of Technology Sydney, Sydney, Sydney, NSW, 2007, Australia
f Department of Health Promotion, Education and Disability Studies, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
g School of International Development and Global Studies, University of Ottawa, Ottawa, Ottawa, Canada
h The George Institute for Global Health, Imperial College London, London, United Kingdom

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ABSTRACT

Introduction: Intimate partner violence has gained momentum as health, social, and human right issue across the globe. Women within sub-Saharan Africa often do not report any case of violence due to the acceptance of violence which is rooted in their socio-cultural beliefs and practices. With a high prevalence of marital disruption in sub-Saharan Africa, it is important that we understand the role intimate partner violence plays in this phenomenon. Hence, this present study assessed the association between intimate partner violence and marital disruption among women in sub-Saharan Africa.

Methods: This study involved a cross-sectional analysis of data from the Demographic and Health Survey of 25 countries in sub-Saharan Africa. Multilevel binary logistic regression analysis was carried out and the results were presented as adjusted odds ratios (aOR) at 95% Confidence Interval (CI).

Results: The prevalence of physical, emotional, and sexual violence in the 25 countries considered in this study were 29.3%, 28%, and 11.5%, respectively. The highest prevalence of physical violence was in Sierra Leone (50.0%) and the lowest prevalence was in Comoros (5.7%). For emotional violence, the highest prevalence was in Sierra Leone (45.9%) and the lowest prevalence was in Comoros (7.9%). The highest prevalence of sexual violence was in Burundi (25.5%) and the lowest prevalence was in Comoros (1.8%). The average prevalence of marital disruption was 7.7%. This ranged from 1.3% in Burkina Faso to 20.2% in Mozambique. We found that women who had ever experienced physical violence were more likely to experience marital disruptions compared to those who had never experienced physical violence [aOR = 1.42, 95% CI = 1.35–1.50]. Women who had ever experienced sexual violence were more likely to experience marital disruption compared to those who had never experienced sexual violence [aOR = 1.29, 95% CI = 1.21–1.37]. Finally, women who had ever experienced emotional violence were more likely to experience marital disruption compared to those who had never experienced emotional violence [aOR = 1.86, 95% CI = 1.76–1.96].

Conclusion: Findings from this study call for proven effective intimate partner violence reduction interventions such as strengthening laws against intimate partner violence in sub-Saharan Africa. Again, marital counseling and health education interventions should be implemented to address the role of intimate partner violence on the wellbeing of women and the stability of couples in sub-Saharan Africa.

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1. Introduction

Domestic violence has gained momentum as health, social, and human right issue across the globe (Ahinkorah et al., 2018; World Health Organization [WHO], 2013; 2014). Of all forms of domestic violence, intimate partner violence (IPV) is the most common form, which involves all sexual, emotional, or physical harms as well as controlling behaviours aggravated by a current or former partner (Wagman et al., 2016). Globally, the incidence of IPV is more severe in women compared to men with about 30% of women reporting violence by an intimate partner at some point in their life (Ahamdi et al., 2017; Devries et al., 2013; WHO, 2012).

The United Nations in 2015 adopted the 2030 Global Development Agenda, consisting of 17 Sustainable Development Goal (SDGs) with 169 targets to mitigate health, environmental, and global economic inequality (United Nations, 2015). Sustainable Development Goal 5 calls for greater gender equality and the empowerment of women globally. Particularly, SDG 5.1 aims at ending all forms of discrimination against all women, and Goal 5.2 focuses on the elimination of all forms of violence against all women in the public and private spheres (United Nations, 2015).

For the purpose of this study, it is particularly important to use theories to explain IPV and marital disruption. IPV was conceptualized as a subcategory of interpersonal violence. We viewed IPV as a type of interpersonal violence, occurring in a family or partner setting and directed towards an intimate partner. From a social learning theory, it is suggested that violent ways of settling family conflicts are often learned through observing parental or peer-relationships during childhood (Wareham et al., 2009). According to Berzenski and Yates (2010), witnessing or experiencing abuse during childhood might be associated with future IPV perpetration in adulthood. On the aspect of marital disruption, we argued that marital disruption can be explained from irretrievable breakdown of union or marriage perspective. Simply, a marriage or union which is irretrievably broken down means that the parties are not willing to come together and co-habit as partners. These theories explain social learning theory on IPV and irretrievable breakdown of union or marriage theory of marital disruption. The link between these theories could be that those victims and perpetrators of IPV have either witnessed or experienced any form of abuse during childhood, resulting in their developing acceptance or tolerance of violence within the family, leading to dissolution of the union or marriage irretrievably.

Gender inequality is a key driver of IPV at the country level (Heise & Kotsadam, 2015) and while formal marriage protects women from IPV in some settings (Abransky et al., 2011), it increases the risk for abuse in some populations within sub-Saharan Africa (SSA). In SSA, the prevalence of IPV remains high among women as it has generally declined among women over time globally (Gubi et al., 2020). The prevalence of IPV is higher, with about 37% among women (WHO, 2013). IPV contributes greatly to mortality and morbidity and its consequences include sexually transmitted disease, unsafe abortions, stillbirths, depression, unwanted pregnancies, among others (Wagman et al., 2016; Winchester, 2016; Pallitto et al., 2013; WHO, 2012). Women within SSA mostly do not report any case of violence due to the acceptance of violence which is rooted in socio-cultural beliefs that men in SSA are unconditionally entitled to sex (Gubi et al., 2020).

Gaining an understanding of IPV and marital disruption among women in SSA is needful for designing interventions, strategies, and policies to decline the domestic violence rate. Previous studies on IPV and marital disruption among women was conducted in Uganda (Gubi et al., 2020; Wagman et al., 2016). However, there has been no such study that has focused generally on SSA. This present study assessed the association between IPV and marital disruption among women in SSA. The study also looked at how socio-demographic factors also influence IPV among women in SSA. Findings from this study could help to formulate useful interventions and strategies in addressing IPV and marital disruption among women in SSA.

2. Methods

2.1. Data source and design

This study involved a cross-sectional analysis of data from the Demographic and Health Survey (DHS) of 25 countries in SSA. We used a pooled data from the women’s file (individual recode) from the 25 countries. Only countries with datasets between 2010 and 2020 were included in the study. The DHS is a nationally representative survey conducted every five years in over 85 low- and middle-income countries globally (Corsi et al., 2012). The DHS employed a structured questionnaire to collect data on several health and social issues such as domestic violence, sexual and reproductive health, maternal and child health, and men’s health (Corsi et al., 2012). A two-stage cluster sampling method was used to recruit women for the study. A study by Aliaga and Ruiulin (2006) highlights a detailed sampling technique and data collection procedure used in collecting data from the respondents. In the present study only 123,938 who had ever been in a sexual relationship with a partner, widowed, divorced, and no longer living together/separated were included in the study. For those that responded never in union and widowed were dropped. The study only 123,938 who had ever been in a sexual relationship with a partner, widowed, divorced, and no longer living together/separated

| S/N | Countries | Year of survey | Weighted N | Weighted % |
|-----|-----------|----------------|------------|------------|
| 1   | Angola    | 2015–16         | 7484       | 6.04       |
| 2   | Burkina Faso | 2010           | 9997       | 8.07       |
| 3   | Benin     | 2017–18         | 4486       | 3.62       |
| 4   | Burundi   | 2016–17         | 7644       | 6.17       |
| 5   | DR Congo  | 2013–14         | 5437       | 4.39       |
| 6   | Cote d’Ivoire | 2011–12       | 4940       | 3.99       |
| 7   | Cameroon  | 2018            | 4901       | 3.95       |
| 8   | Ethiopia  | 2016            | 4999       | 4.03       |
| 9   | Gabon     | 2012            | 3814       | 3.08       |
| 10  | Gambia    | 2013            | 3454       | 2.79       |
| 11  | Kenya     | 2014            | 4329       | 3.49       |
| 12  | Comoros   | 2012            | 2487       | 2.01       |
| 13  | Liberia   | 2019–20         | 2099       | 1.69       |
| 14  | Mali      | 2018            | 3418       | 2.76       |
| 15  | Malawi    | 2015–16         | 5413       | 4.57       |
| 16  | Mozambique| 2015            | 3057       | 2.47       |
| 17  | Nigeria   | 2018            | 8965       | 7.23       |
| 18  | Namibia   | 2013            | 1314       | 1.06       |
| 19  | Rwanda    | 2014–15         | 1923       | 1.55       |
| 20  | Sierra Leone | 2019         | 4009       | 3.23       |
| 21  | Chad      | 2014–15         | 3644       | 2.94       |
| 22  | Togo      | 2013–14         | 5336       | 4.31       |
| 23  | Uganda    | 2014–15         | 7505       | 6.06       |
| 24  | Zambia    | 2018            | 7369       | 5.95       |
| 25  | Zimbabwe  | 2015            | 5914       | 4.77       |
| All countries |          |               | 123,938   | 100.00     |

2.1.1. Outcome variable

Marital disruption was the main outcome variable. To derive this variable, each of the respondents was asked about their current marital status. The response options were never in a union, married, living with a partner, widowed, divorced, and no longer living together/separated. Those that responded never in union and widowed were dropped. The responses were further categorised into “separated/divorced [disrupted]” for those that responded “divorced, and no longer living together/separated” whilst the remaining responses (married, living with a partner) were grouped as not separated/divorced [not disrupted].
3.2. Key explanatory variable

The key explanatory variable in the present study was IPV. IPV was created as an index variable from three key variables consisting of physical, emotional, and sexual violence respectively. The three variables were based on several questions in the domestic violence module. However, questions were obtained from a modified version of the conflict tactics scale (Kishor, 2005). With physical violence, each respondent was asked whether her last partner ever: pushed her; shook or threw something at her; slapped her; punched her with his fist or something harmful; kicked or dragged her; strangled or burnt her; threatened her with a knife, gun or other weapons; and twisted her arm or pulled her hair. On emotional violence, respondents were asked whether their last partner ever: humiliated her; threatened to harm her, and insulted or made her feel bad. Regarding sexual violence, respondents were asked whether their partner ever: physically forced the respondent into unwanted sex; whether the partner ever forced her into other unwanted sexual acts; and whether the respondent has been physically forced to perform sexual acts which she did not want to. For these questions, the responses were ‘yes’ and ‘no’. More importantly, a respondent who had experienced at least one of the violent acts was considered as ever experienced physical, emotional, and sexual violence respectively (Ahinkorah et al., 2021).

3.3. Covariates

A total of eight covariates were controlled for in the present study. The variables were selected based on their availability in the DHS dataset as well as their significant association with divorce or separation (Dagnew et al., 2020; Wagman et al., 2016). In the analysis, we utilised the existing coding in the DHS dataset for maternal age (years), educational level, current working status. In the DHS, maternal age was coded as “15–19”, “20–24”, “25–29”, “30–34”, “35–39”, “40–44”, and “45–49”. Educational level was coded as “no education”, “primary”, “secondary”, and “higher”. The current working status was coded as “yes” and “no”. Exposure to mass media was created as an index variable from the frequency of listening to the radio, frequency of reading newspapers/magazines, and frequency of watching television. The response options in each of the three variables (frequency of listening to radio, frequency of reading newspaper/magazine, and frequency of watching television) were coded as follows: never, once a month, once a week, and daily. The frequency of reading newspapers/magazines was coded as follows: never, once a month, once a week, and daily. The frequency of watching television was coded as follows: never, once a month, once a week, and daily.
watching television) were the same. The response options were “not at all”, “less than once a week”, “at least once a week”, and “almost every day”. The respondents whose response option was, “not at all” and “less than once a week” were recoded as “No [not exposed]” whilst those that responded, “at least once a week” and “almost every day” were recoded as “Yes [exposed]”. The categorisation was used in each of the three variables (radio, newspaper, and television). Afterward, the variable exposure to mass media was created using the categorisation in the three variables. A respondent was said to be exposed to mass media if she had responded, “at least once a week” or “almost every day” for all three exposure variables (radio, newspaper, and television) were the same. The response options were, “not at all” and “less than once a week” were recoded as “Yes [exposed]”. However, those that responded, “at least once a week” and “almost every day” were recoded as “No [not exposed]”. The categorisation was used in each of the three variables (radio, newspaper, and television). Afterward, the variable exposure to mass media was created using the categorisation in the three variables. A respondent was said to be exposed to mass media if she had at least one “Yes [exposed]” in any of the exposure variables (radio, newspaper, and television). All these variables were considered as individual level factors.

Wealth index, place of residence, and sub-region were considered as contextual factors. In the DHS, wealth is a composite measure computed by combining data on a household’s ownership of carefully identified assets including television, bicycle, materials used for house construction, sanitation facilities, and type of water access. Principal component analysis was used to transform these variables into wealth index by placing individual households on a continuous measure of relative wealth. The DHS segregates households into five wealth quintiles: poorest, poorer, middle, richer, and richest. The quintiles were used in the final analysis. Place of residence was coded as “urban” and “rural” in the DHS dataset and this was used in the analysis. Sub-region was coded as West Africa, East Africa, Central Africa, and Southern Africa.

4. Statistical analyses

Various steps were followed to analyse the data. First, frequency and percentages to show the prevalence of IPV and marital disruption in the selected sub-Saharan African countries were determined. After this, we cross-tabulated the distribution of marital disruption across the individual and contextual level factors as well as an estimated Pearson’s chi-square test of independence ($\chi^2$) at a p-value of less than 0.05 to show significant factors. Further, a multilevel binary logistic regression analysis was used to examine the individual and contextual factors associated with marital disruption using four models. Model 0 showed the variance in marital disruption attributed to the clustering of the primary sampling units (PSUs) without the explanatory variables. Model I and Model II contained the individual and contextual factors, respectively. The final model (Model III) had all the individual and contextual factors. The Stata command “melogit” was used in fitting these models. We used Akaike’s Information Criterion (AIC) tests for Model comparison. All the results were presented using adjusted odds ratios (aOR) at 95% Confidence Interval (CI). Sample weight and the ‘svy’ command were used to correct for over and under-sampling, including the complex survey design to improve our findings’ generalizability. The paper was written following the Strengthening Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines (Von Elm et al., 2014).

5. Ethical considerations

We did our analysis using data that is publicly available. Since, the dataset is already available in the public domain, no ethical approval was required for this study. Details about the data and ethical standards are available at: http://goo.gl/ny8T6X.

6. Results

6.1. Prevalence of IPV and marital disruption in sub-Saharan Africa

Figs. 1 and 2 show the prevalence of IPV and marital disruption in SSA respectively. The prevalence of physical, emotional, and sexual
violence in the 25 countries considered in this study were 29.3%, 28%, and 11.5%, respectively. The highest prevalence of physical violence was in Sierra Leone (50.0%) and the lowest prevalence was in Comoros (5.7%). For emotional violence, the highest prevalence was in Sierra Leone (45.9%) and the lowest prevalence was in Comoros (7.9%). The highest prevalence of sexual violence was in Burundi (25.5) and the lowest prevalence was in Comoros (1.8%). The average prevalence of marital disruption was 7.7%. This ranged from 1.3% in Burkina Faso to 20.2% in Mozambique (Fig. 2). in

### 6.2. Distribution of IPV across marital disruption

Table 2 shows the distribution of IPV across marital disruption and covariates. The results showed that marital disruption was more prevalent among women who had experienced physical violence (12.5%) compared to those who had never experienced physical violence (5.8%). The prevalence of marital disruption was higher among those who had experienced emotional violence (13.0%) compared to those who had never experienced emotional violence (5.7%). Marital disruption was higher among women who had experienced sexual violence (14.8%) compared to those who had never experienced sexual violence (6.8%). In terms of the covariates, maternal age, educational level, religion, current working status, parity, mass media exposure, wealth index, and place residence showed significant associations with marital disruption.

### 6.3. Association between IPV and marital disruption in sub-Saharan Africa

Model III of Table 3 shows the results of the association between IPV and marital disruption in SSA. We found that women who had experienced physical violence were more likely to experience marital disruptions compared to those who never experienced physical violence [aOR = 1.42, 95% CI = 1.35–1.50]. Women who had ever experienced sexual violence were more likely to experience marital disruption compared to those who had never experienced sexual violence [aOR = 1.29, 95% CI = 1.21–1.37]. Finally, women who had ever experienced emotional violence were more likely to experience marital disruption compared to those who had never experienced emotional violence [aOR = 1.86, 95% CI = 1.76–1.96].

### 6.4. Random effects (measures of variation)

The random effects results are shown in Table 3. It was found that in the empty model (Model 0), there are substantial variations in marital disruption in SSA across the PSUs [r2 = 2.2; 95% CI (1.4–3.6)]. The ICC showed that about 1% (0.007) of the total variance was attributable to the community where the women live. In model 1 and III, it increased to 0.008 which was also about 1%. In the final model, it increased to 0.009 which is also approximately 1%. Therefore in all the models, about 1% of the variations in marital dissolution is attributable to the community where the women are living. The Akaike’s Information Criterion (AIC) values showed a reduction, between model 0 and model 1 but increased in model 2 and reduced again in model 3. Therefore, Model III, the complete model with both the selected individual and household/community factors, was the best model.

### 7. Discussion

IPV is the most common form of gender-based violence, which involves all sexual, emotional, or physical harms as well as controlling behaviors aggravated by a current or former partner (Wagman et al., 2016). The study examined the prevalence and association between IPV and marital disruption in SSA. The findings from the study showed a 29.3%, 28%, and 11.5% prevalence of physical, emotional, and sexual violence respectively among women in SSA. The findings possibly suggest that generally, IPV is a great avenue for causing marital disruption as some literature have explained (Wagman et al., 2016). In this present study, women who had ever experienced physical, sexual, and emotional violence were more likely to experience marital disruptions compared to those who never experienced any of these.

On IPV, the current study used three variables (physical, emotional, and sexual violence). It is possible that sexual, physical, and emotional violence are distal determinants of marital dissolution, however, in the study, physical violence is a more direct driver of marital disruption. This finding is in line with a previous study conducted in Uganda (Wagman et al., 2016) where physical violence was more prevalent in causing union dissolution. It could be that women in our study who experienced severity and increasing levels of IPV (especially physical violence) became less tolerant of the violence and more motivated to dissolve the relationship with their partners.

The study revealed that compared to the poorest women, women of all other wealth index were less likely to experience marital disruption.
This simply means that marital disruption decreases with increasing wealth index. This finding contradicts the findings of previous studies conducted in Zambia and Mozambique (Bamiwuye & Odimegwu, 2014).

Surprisingly, the odds of experiencing marital disruption were high among women who were employed compared to those who were unemployed. This finding can be explained by the fact that employed women can cater for their basic needs in life on their own. Employed women will tend to end any violent relationship with their partners.

Also, the study found that women with higher education were less likely to experience marital disruption. The possible justification could be...
be that women with higher education do better understand IPV than women with no education. This knowledge acquired can help them champion the fight against indiscrimination and bad socio-cultural practices that are against women. The findings of this study are congruent to that of Hindin et al. (2008), who found education as a protective factor against sexual or emotional violence in Bolivia, Kenya, and Zimbabwe. It can, therefore, be assumed that encouraging more women to be educated can reduce the prevalence of marital disruption.

8. Strengths and limitations

Nationally representative data in 25 countries in SSA were employed to assess the association between IPV among women and marital disruption in SSA. The study has offered insights on IPV as a predictor of marital disruption among women in SSA. The study had its strength of large sample size and the national representative nature of data make samples that are highly representative of the target populations. The use nationally representative surveys (DHS) made it possible to obtain current outcomes. The relationships established between the explanatory and dependent variables may vary over time.

9. Conclusion

This study has shown the association between intimate partner violence and marital disruption among women in SSA. Findings from this study call for proven effective intimate partner violence reduction interventions such as strengthening laws against intimate partner violence in sub-Saharan Africa. Again, marital counseling and health education interventions could be implemented to address the role of intimate partner violence on the wellbeing of women and the stability of marriages in sub-Saharan Africa.

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Authors statement

RGA and AS conceived the study. RGA and BOA designed and performed the analysis. AS, RGA, BOA, CA, and SY designed first draft of the manuscript. AS, RGA, BOA, CA, and SY revised the manuscript for intellectual content and gave consent for the version to be published. All authors have read and approved final manuscript and agreed to be accountable for all aspects of the work.

Ethical considerations

We did our analysis using data that is publicly available. Since, the dataset is already available in the public domain, no ethical approval was required for this study. Details about data and ethical standards are available at: http://goo.gl/nyBT6X.

Declaration of competing interest

The authors declare that they have no competing interests.

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Not applicable.