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Association between polygyny and justification of violence among women in sexual unions in sub-Saharan Africa

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Abstract

Background There remains a dearth of comprehensive understanding of the fundamental origins of intimate partner violence within the context of marital structure. This study examines the association between polygyny and justification of violence among women in sub-Saharan Africa.

Methods We used up-to-date data from the Demographic and Health Surveys of twenty-one sub-Saharan African countries. A multilevel binary mixed-effect regression analysis was used to examine the association between polygyny status and justification of violence, controlling for potential covariates. The results were presented utilising adjusted odds ratios (aOR) with 95% confidence intervals (CI).

Results Women whose husbands/partners had other wives (co-wives) (aOR = 1.35; 95% CI 1.30, 1.40) had higher odds of justifying wife beating if wife goes out without telling compared to those whose husbands/partners had no co-wives. Similar results were obtained concerning the association between polygyny and justification of wife beating if wife burns food (aOR = 1.31; 95% CI 1.25, 1.36), neglects children (aOR = 1.31; 95% CI 1.27, 1.36), argues with the husband (aOR = 1.37; 95% CI 1.32, 1.43), and refuses to have sex with her husband (aOR = 1.30; 95% CI 1.25, 1.35).

Conclusions The endorsement of violence against women within relationships, irrespective of the rationale, undermines worldwide and national endeavours aimed at tackling the issue of intimate partner violence and its associated repercussions. It is imperative to implement diverse approaches to effectively tackle the situation. Increased education and awareness campaigns focused on intimate partner violence are expected to play significant roles in effectively tackling this issue. Implementing punitive measures against individuals who perpetrate intimate partner violence upon their partners could also be adopted.

Keywords Acceptance of violence, Multiple sexual unions, Justification of violence, Women, Polygyny, sub-Saharan Africa, Demographic and Health Survey

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Introduction

Intimate partner violence (IPV) is a longstanding global public health issue that warrants attention. It encompasses instances of actual or potential physical, sexual, psychological, and/or emotional abuse inflicted by a present or past partner [1]. According to recent estimates, approximately 27% of women aged 15 to 49 who have previously been involved in a committed relationship have encountered incidents of IPV in various forms [2]. The situation is alarming in sub-Saharan Africa (SSA), where about 33% of women experience IPV in their lifetime, which is higher than the global average of 27% [1]. Physical violence is the prevailing manifestation of IPV encountered by women in SSA. This form of violence includes acts such as getting slapped, being subjected to projectile objects, shoving, beating, choking, strangulation, and being targeted with weapons [3].

IPV constitutes a transgression against the fundamental rights of its victims, leading to significant social, economic, and emotional ramifications [4–7]. For instance, IPV increases the vulnerability of women to experiencing unwanted pregnancies, stillbirths, miscarriages, pre-term birth, and sexually transmitted infections [8–10]. Additionally, it has the potential to lead to posttraumatic stress disorders, suicidal ideation, depressive symptoms, and in severe instances, mortality [11–13].

Eliminating IPV, especially against women, is a crucial agenda and therefore captured in the United Nations' Sustainable Development Goals [14]. The UN General Assembly's non-binding Declaration on the Elimination of Violence Against Women (DEVAW) also aims to increase national commitments to global engagement and policy creation regarding violence against women [15]. In addition, many countries in SSA have adopted legislation to make IPV a criminal act [16–18]. IPV remains prevalent in SSA despite the legislations and interventions made to minimize its incidence and this could be attributed to the fact that many men and women have unfavorable attitudes regarding IPV and seem to take some degree of IPV for granted.

The attitude and perceptions towards IPV in SSA have been attributed to several factors related to the cultural and social norms of the continent [19, 20]. In numerous legal jurisdictions, IPV is acknowledged as a cultural phenomenon that is occasionally employed to exert control over women and ensure their compliance with societal expectations. Consequently, such behaviour is often perceived as customary or rationalized. Recent research on IPV has conducted comprehensive investigations into attitudes regarding the acceptability of spousal abuse. These studies involve surveying participants to get their perspectives on whether it is justifiable for a husband to physically assault his wife under specific circumstances

[21–23]. These studies have provided insights into the prevalence of acceptance of violence against women in SSA. In a study encompassing 26 countries in SSA, it was found that 45.8% of women expressed support for the practice of wife beating. This justification of wife beating was shown particularly in cases where a woman was perceived to be falling short of meeting her husband's and societal expectations [24].

Justification of violence can negatively affect efforts being made to stop IPV because survivors of IPV may not report cases of abuse – a situation that is common in SSA [25]. Women who believe wife beating is unacceptable are more likely to know their rights, have a stronger sense of self-worth, and feel more empowered [26]. On the contrary, women who view wife beating as acceptable feel that a husband must take responsibility to change his wife's conduct, even if that means using violence. Women are less likely to seek help or leave abusive relationships when they feel that they deserve and are the cause of abuses meted out to them. Justification of violence may be influenced by patriarchal ideologies, level of education, employment status, length of marriage, and amount of participation in household decision-making [3, 22, 27]. It is important to understand how women in different situations that expose them to IPV perceive the act as this could help us understand how these conditions are driving the undying incidence of IPV.

Several studies have reported that IPV is high among women in polygamous marriages in SSA [28–31]. However, there is still a lack of widespread knowledge of the underlying risk factors of violence in this form of marriage arrangement. Accordingly, some scholars have called for a probe into the role of polygyny as a socio-cultural factor and a key determinant of IPV [28]. Polygyny is sometimes characterized by power dynamics and domineering conduct, which are known correlates of IPV and its justification [32]. Again, women in polygamous unions may hold on to male superiority beliefs and have poor economic status, making them liable to justify IPV in the bid to secure their marriage [33]. Polygynous marriages incorporate a hierarchy that sustains a classic gender ideology of male supremacy and female subordination and consequently can heighten the threats of IPV [31]. Within SSA, polygyny is a prominent feature of traditional marriage customs [34]. Notwithstanding the numerous attempts by both colonial and independent administrations to address polygyny through various legal frameworks and religious regulations, as well as a notable reduction in polygyny prevalence in recent years, the practice of polygyny in SSA has demonstrated a striking resilience [35], with reported polygyny rates varying from 1.6% among married women in South Africa to 40% in Chad [28].

Polygyny is regarded as a beneficial practice to increase the output and fertility of traditional agricultural households [36]. Polygynous married women have a higher tendency to depend on their husbands for resource accessibility than their counterparts in monogamous marriages [37, 38] and are subjected to greater amounts of authority and decision-making control by their husbands and in-laws [39]. As a result, partner inequality are more visible within polygynous compared to monogamous marriages. Among women in polygynous relationships, a greater tendency towards accepting the male dominance system and poorer levels of achievement have been observed [40], which has been used as justification for condoning IPV [33]. For example, some studies have reported that women in polygamous marriages are more likely to accept IPV [33, 41]. The mechanism and effects of IPV can be better understood by focusing on the role of control and varied power dynamics in marriage, which would be crucial for preventing and reducing violence against women. Understanding the attitudes of women in polygamous marriages towards violence can contribute to more effective prevention and intervention strategies that respect local traditions while promoting healthy and non-violent relationships.

The cultural spill-over theory serves as the conceptual model for our study [42]. The theory posits that the more a society endorses the use of physical force to achieve socially approved ends, the greater the likelihood that this legitimisation of force will be generalised to other areas of life where force is less socially accepted [43]. In the case of IPV, the greater acceptability and normalisation of violence, leads to an increase in the risk of exposure to IPV. The widespread patriarchal social organization within SSA is a major contributor to the justification of violence against women, as evident in studies conducted in Ghana [44, 45]. The organization reinforces the dominance of men and encourages tolerance of violence against women, which results in higher exposure to and prevalence of violence experienced by women [45]. In understanding the association between IPV justification and polygyny, SSA serves as an excellent case study because of the high prevalence of both IPV and polygyny. Therefore, this study was conducted to determine the association between polygyny and the justification of wife beating in SSA using recent Demographic and Health Survey (DHS) data.

Methods

Data source

Data for the study were extracted from twenty-one sub-Saharan African countries' nationally representative DHSs. We included countries with recent datasets published from 2015 to 2021 and contained observations on

all the variables of interest to the study (Table 1). DHS is undertaken globally in more than 90 low- and middle-income countries, mostly every five years, to gather information from respondents on health and social indicators such as domestic violence [46]. When conducting the survey, the DHS uses a descriptive cross-sectional design. The detailed sampling methodology has been published elsewhere [47, 48]. Briefly, a two-stage cluster sampling method was used to recruit the respondents for the survey. Using a probability sampling technique proportional to size (PPS), clusters are chosen in the first stage. In the second stage, a number of households (usually 28–30) are chosen using a systematic sampling methodology. This article was written per the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) standard guidelines [49].

Variables

The study examined five outcome variables that served as indicators of the justification of violence. Married and cohabiting women were asked questions to enquire whether their partners are justified in hitting or beating them when they are involved in the following situations: (i) burning food; (ii) arguing with him; (iii) going

Table 1 Description of study sample per country

Country	Year of survey	Pooled weighted sample	Pooled weighted percentage
1. Angola	2015–16	8,844	4.32
2. Benin	2017–18	9,822	4.80
3. Burundi	2016–17	10,901	5.32
4. Cameroon	2018	8,692	4.24
5. Ethiopia	2016	10,068	4.92
6. Gambia	2019–20	6,812	3.33
7. Guinea	2018	6,623	3.23
8. Liberia	2019–20	4,498	2.20
9. Madagascar	2021	11,670	5.70
10. Mali	2018	6,682	3.26
11. Mauritania	2019–2021	9,743	4.76
12. Malawi	2015–16	15,321	7.48
13. Nigeria	2018	25,970	12.68
14. Rwanda	2019–20	9,158	4.47
15. Sierra Leone	2019	9,487	4.63
16. Chad	2014–15	10,761	5.25
17. Tanzania	2015–16	8,188	4.00
18. Uganda	2016	11,142	5.44
19. South Africa	2016	5,667	2.77
20. Zambia	2018	8,479	4.14
21. Zimbabwe	2015	6,276	3.06
All countries	2015–2021	204,804	100.00

Source: DHS

out without telling him; (iv) neglecting the children; and (v) refusing to have sex with him. For each of these situations, women were asked "In your opinion, is a husband justified in hitting or beating his wife?" Every question included three potential responses: "no," "yes," and "don't know". Responses indicating, "no" or "don't know", were re-categorized as "no = 0". Conversely, responses indicating an affirmative answer, such as "yes" were left unchanged and assigned a value of "1". Consequently, all five outcome variables were assigned the values of '0' to represent 'no' and '1' to represent 'yes'. Previous studies that utilized the DHS dataset employed these similar coding to assess women's justification of violence or acceptance of wife beatings [24, 50, 51].

In this study, the key explanatory variable was the number of additional wives (co-wives) in the union. Women who were married or living together with their partners were asked how many other wives/partners their husbands or partners had in addition to them in order to calculate the number of co-wives. Women who had co-wives were classified as having co-wives and were coded as '1 = yes', or otherwise assigned a value of "0" if they did not have co-wives [41].

We included nine (9) variables as covariates in the study. The variables were selected based on their association with justification of violence from the literature [22, 24, 41, 51] as well as their availability in the DHS dataset. These variables were grouped into individual-level and contextual-level (household- and community-level variables). The individual-level variables consisted of the women's age (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49), level of education (no education, primary, secondary, higher), employment status (working, not working), engaged in multiple sexual unions (no, yes), and exposure to mass media (no, yes) [52]. Partner's age (< 20, 20–24, 25–34, 35–44, 45 +), wealth index (poorest, poorer, middle, richer, richest), place of residence (urban, rural), and geographical sub-region (Central Africa, Southern Africa, Eastern Africa, and Western Africa) were the contextual-level variables.

Statistical analyses

We weighted all the analyses per the DHS guidelines [46, 53]. We used 'spmap' command in Stata to present the results of the five outcome variables and the key explanatory variable on the map of Africa. Cross-tabulation was conducted to examine the distribution of the outcome variables across the explanatory variables. A p -value less than 0.05 from the Pearson chi-square test of independence was used to determine the variables significantly associated with the outcome variables. Next, we checked for evidence of multicollinearity and found no evidence of collinearity

among the variables included in the study. This was followed by a multilevel binary mixed-effect regression analysis to examine the association between polygyny status and justification of violence, adjusting for the covariates. This analytical method was chosen due to the clustered nature of the DHS dataset, with the clustering occurring at the household levels. Both fixed effect and random effect results were generated. The fixed effect results showed the association between polygyny and justification of violence. In estimating the fixed effect results, the empty model (Model O) was used to examine the variance in the outcome variables attributed to the clustering at the primary sampling units. Model I contained polygyny status. Model II had variables in Model I and the individual-level variables. Model III included variables in Model I and the contextual level variables. Model IV, the complete model based on the least value of the Akaike Information Criterion (AIC), included the key explanatory variable and the covariates. The results of the fixed effect results were presented using adjusted odds ratios (aOR) and their related 95% confidence intervals (CI). The statistical significance was set at $p < 0.05$. The random effect results showed the variations in the justification of violence and the fitness of the models. The fitness of the models were assessed using the AICs values. The variations in justification of violence was measured using the intra-cluster correlation coefficient (ICC). Stata version 17.0 (Stata Corporation, College Station, TX, USA) was used for all the analyses.

Ethical considerations

As the study relied on secondary data obtained from the DHS, formal ethical approval was not required. The Monitoring and Evaluation to Assess and Use Results Demographic and Health Surveys (MEASURE DHS) program authorized us to utilize the DHS dataset for publication.

Results

Proportion of justification of violence and polygyny per country

Figures 1A to 1E depict the findings pertaining to the proportion of justification of violence across different countries. Regarding the occurrence of justifiable reasons for violence when a wife goes away without informing her husband, the country with the highest percentage was Chad (62.37%), whereas the country with the lowest percentage was South Africa (2.39%) (Fig. 1A). The results presented in Fig. 1B indicates that Chad had the highest proportion (62.33%) of women who believed that hitting was permissible in cases when the wife neglects the children. Conversely, South Africa had the lowest proportion (2.94%) of women who held this belief. When examining

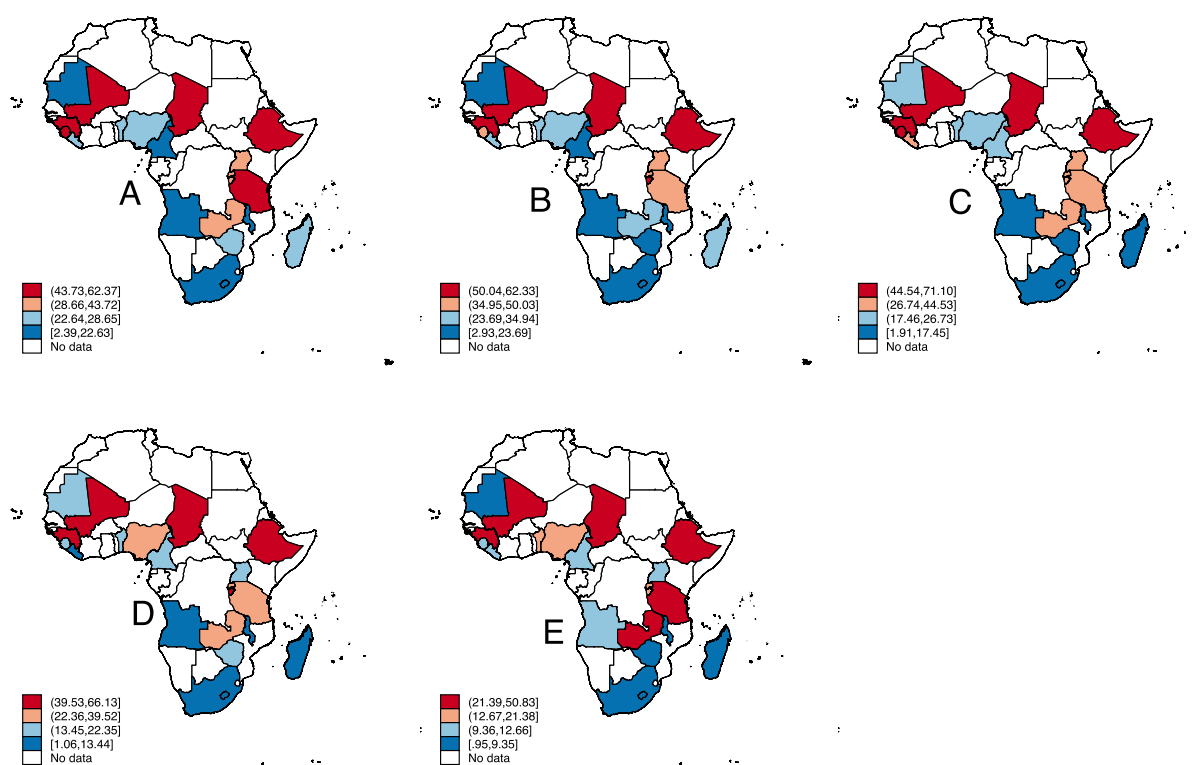


Fig. 1 Prevalence of IPV justification among women in sub-Saharan Africa. The figures are Choropleth maps showing the proportion of women in the surveyed countries who justified wife hitting or beating when wife (A) goes away without informing husband, (B) neglects children, (C) argues with husband, (D) refuses sexual intercourse, or (E) burns food. Values within square brackets in the colour legends indicate the proportion (%) of women who justified wife hitting or beating under the stated situations

the occurrence of justified arguments between husbands and wives, it was shown that Mali had the largest proportion (71.1%), whilst South Africa had the lowest proportion (1.91%) (Fig. 1C). In Mali, 66.13% of the women justified wife beating when the wife refuses to have sex with the husband. South Africa had the smallest percentage (1.06%) in terms of the aforementioned aspect of the justification of violence. The act of justifying violence in response to a wife's mishandling of food was examined, revealing significant variations across different countries. Notably, Chad recorded the highest proportion of women who deemed such violence as legitimate (50.83%). Conversely, South Africa had the lowest proportion, with only 0.95% of women endorsing this form of wife beating. Figure 2 depicts the proportions of polygyny observed in SSA. The country with the largest percentage of women whose husbands had more than one wife was Guinea, with a proportion of 42.30%. In contrast, South Africa had the lowest proportion at 2.30% (Fig. 2). Additional results on the proportion of justification of violence per country and their distribution across polygyny and the

covariates can be found in the supplementary file (Tables S1 and S2).

Association between polygyny and justified beating if wife goes out without telling husband among women in SSA

Table 2 shows the results of the association between polygyny status and justification of beating if the wife goes out without telling the husband. From the table, women who have co-wives (aOR = 1.35; 95% CI 1.30, 1.40) had higher odds of justifying wife beating if wife goes out without telling husband in comparison to women with no co-wives.

Association between polygyny and justified beating if wife neglects the children among women in SSA

Table 3 presents the result of the association between polygyny and justified beating if wife neglects the children among women in SSA. Women who had co-wives (aOR = 1.31; 95% CI 1.27, 1.36) were more likely to justify violence against wife if wife neglects the children compared to women who had no co-wives.

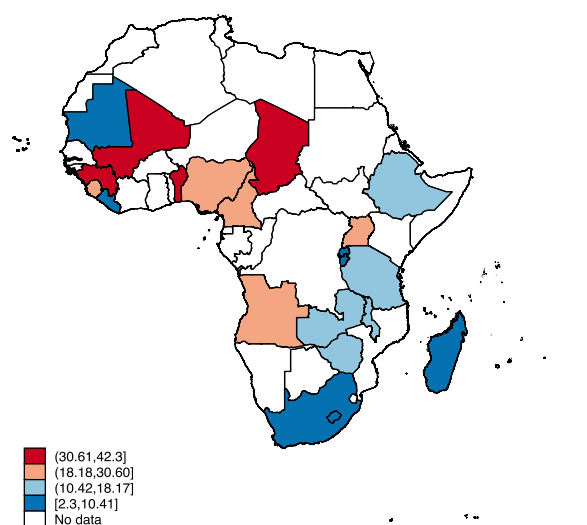


Fig. 2 Proportion of women who have experienced polygyny in sub-Saharan Africa. The figure is Choropleth map showing the proportion of women whose partners or husbands had other wife(s) in addition to them. Values within square brackets in the colour legends indicate the proportion (%) of women whose husbands have more than one wife

Association between polygyny and justified beating if wife argues with husband among women in SSA

In Table 4, we present the result of the association between polygyny and justified beating if wife argues with husband among women in SSA. Women with co-wives (aOR = 1.37; 95% CI 1.32, 1.43) had higher odds of

justifying wife beating if wife argues with husband compared to women with no co-wives.

Association between polygyny and justified beating if wife refuses to have sex with husband among women in SSA

Table 5 presents the result of the association between polygyny and justified beating if wife refuses to have sex with husband among women in SSA. From the table, women with co-wives (aOR = 1.30; 95% CI 1.25, 1.35) were more likely to justify beatings if wife refuses to have sex with husband compared to women without co-wives.

Association between polygyny and justified beating if wife burns the food among women

In Table 6, the result of the association between polygyny and justified beating if wife burns the food among women in SSA. From the table, women with co-wives had higher odds of justifying wife beating if wife burns the food (aOR = 1.31; 95% CI 1.25, 1.36).

Discussion

IPV remains more pervasive in the SSA sub-region in comparison to other global regions [54]. The cyclical nature of IPV experienced by women may be attributed to the individual and cultural rationalization of this behavior, which serves to perpetuate it. This study examined the association between polygyny and the endorsement of violence among women in sexual partnerships

Table 2 Association between polygyny and justified beating if wife goes out without telling husband among women in SSA

Variables	Model O	Model I aOR [95% CI]	Model II aOR [95% CI]	Model III aOR [95% CI]	Model IV aOR [95% CI]
Fixed effect					
Has co-wives					
No		1.00	1.00	1.00	1.00
Yes		1.67*** [1.61, 1.73]	1.42*** [1.37, 1.48]	1.44*** [1.39, 1.50]	1.35*** [1.30, 1.40]
Random effect model					
PSU variance (95% CI)	1.101 [0.942, 1.287]	1.048 [0.896, 1.227]	0.618 [0.517, 0.739]	0.885 [0.755, 1.038]	0.615 [0.516, 0.733]
ICC	0.251	0.242	0.158	0.212	0.157
Wald chi-square	Reference	694.91 (< 0.001)	2806.68 (< 0.001)	1673.78 (< 0.001)	2964.79 (< 0.001)
Model fitness					
Log-likelihood	− 198,951.9	− 197,426.09	− 190,879.37	− 192,419.88	− 189,502.06
AIC	397,907.8	394,858.2	381,788.7	384,867.8	379,056.1
Total weighted sample	204,804	204,804	204,804	204,804	204,804
Number of clusters	1,399	1,399	1,399	1,399	1,399

aOR adjusted odds ratios, CI Confidence Interval; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; 1 = Reference category; PSU Primary Sampling Unit, ICC Intra-Class Correlation, AIC Akaike's Information Criterion

Model O: Empty model with only the outcome variable, with no explanatory variable or covariate

Model I: Included the outcome variable and the explanatory variables

Model II: Included the outcome variable, explanatory variable, and individual-level covariates

Model III: Included the outcome variable, explanatory variable, and contextual level covariates

Model IV: Included the outcome variable, explanatory variable, and all the covariates

Table 3 Association between polygyny and justified beating if wife neglects the children among women in SSA

Variables	Model O	Model I aOR [95% CI]	Model II aOR [95% CI]	Model III aOR [95% CI]	Model IV aOR [95% CI]
Fixed effect					
Has co-wives					
No		1.00	1.00	1.00	1.00
Yes		1.49*** [1.43, 1.54]	1.30*** [1.25, 1.35]	1.40*** [1.35, 1.45]	1.31*** [1.27, 1.36]
Random effect model					
PSU variance (95% CI)	1.249 [1.077, 1.449]	1.207 [1.039, 1.402]	0.801 [0.673, 0.953]	0.950 [0.811, 1.113]	0.725 [0.608, 0.865]
ICC	0.275	0.268	0.196	0.224	0.181
Wald chi-square	Reference	406.46 (< 0.001)	2195.01 (< 0.001)	1380.07 (< 0.001)	2577.42 (< 0.001)
Model fitness					
Log-likelihood	− 205,179.94	− 204,244.91	− 198,666.23	− 199,377.93	− 196,856.68
AIC	410,363.9	408,495.8	397,362.5	398,783.9	393,765.4
Total weighted sample	204,804	204,804	204,804	204,804	204,804
Number of clusters	1,399	1,399	1,399	1,399	1,399

aOR adjusted odds ratios, CI Confidence Interval; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; 1 = Reference category; PSU Primary Sampling Unit, ICC Intra-Class Correlation, AIC Akaike's Information Criterion

Model O: Empty model with only the outcome variable, with no explanatory variable or covariate

Model I: Included the outcome variable and the explanatory variables

Model II: Included the outcome variable, explanatory variable, and individual-level covariates

Model III: Included the outcome variable, explanatory variable, and contextual level covariates

Model IV: Included the outcome variable, explanatory variable, and all the covariates

Table 4 Association between polygyny and justified beating if wife argues with husband among women in SSA

Variables	Model O	Model I aOR [95% CI]	Model II aOR [95% CI]	Model III aOR [95% CI]	Model IV aOR [95% CI]
Fixed effect					
Has co-wives					
No		1.00	1.00	1.00	1.00
Yes		1.75*** [1.68, 1.82]	1.48*** [1.42, 1.54]	1.47*** [1.41, 1.53]	1.37*** [1.32, 1.43]
Random effect model					
PSU variance (95% CI)	1.092 [0.935, 1.276]	1.036 [0.886, 1.213]	0.598 [0.501, 0.714]	0.948 [0.812, 1.108]	0.636 [0.535, 0.756]
ICC	0.249	0.240	0.154	0.224	0.162
Wald chi-square	Reference	754.33 (< 0.001)	3011.29 (< 0.001)	1450.41 (< 0.001)	3182.98 (< 0.001)
Model fitness					
Log-likelihood	− 191,456.59	− 189,698.25	− 182,824.14	− 184,692.09	− 181,462.64
AIC	382,917.2	379,402.5	365,678.3	369,412.2	362,977.3
Total weighted sample	204,804	204,804	204,804	204,804	204,804
Number of clusters	1,399	1,399	1,399	1,399	1,399

aOR adjusted odds ratios, CI Confidence Interval; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; 1 = Reference category; PSU Primary Sampling Unit, ICC Intra-Class Correlation, AIC Akaike's Information Criterion

Adjusted for women's age (years), level of education, current working status, multiple sexual unions, exposure to mass media, partners' age (years), wealth index, place of residence, geographical subregions

Model O: Empty model with only the outcome variable, with no explanatory variable or covariate

Model I: Included the outcome variable and the explanatory variable

Model II: Included the outcome variable, explanatory variable, and individual-level covariates

Model III: Included the outcome variable, explanatory variable, and contextual level covariates

Model IV: Included the outcome variable, explanatory variable, and all the covariates

Table 5 Association between polygyny and justified beating if wife refuses to have sex with husband among women in SSA

Variables	Model O	Model I aOR [95% CI]	Model II aOR [95% CI]	Model III aOR [95% CI]	Model IV aOR [95% CI]
Fixed effect					
Has co-wives					
No		1.00	1.00	1.00	1.00
Yes		1.65*** [1.58, 1.72]	1.37*** [1.32, 1.43]	1.38*** [1.32, 1.43]	1.30*** [1.25, 1.35]
Random effect model					
PSU variance (95% CI)	1.225 [1.047, 1.432]	1.160 [0.991, 1.358]	0.581 [0.486, 0.695]	1.030 [0.875, 1.213]	0.604 [0.504, 0.725]
ICC	0.271	0.261	0.150	0.238	0.155
Wald chi-square	Reference	557.04 (< 0.001)	3003.53 (< 0.001)	1384.85 (< 0.001)	3136.83 (< 0.001)
Model fitness					
Log-likelihood	− 184,341.07	− 183,015.36	− 175,771.35	− 178,011.85	− 174,317.28
AIC	368,686.1	366,036.7	351,572.7	356,051.7	348,686.6
Total weighted sample	204,804	204,804	204,804	204,804	204,804
Number of clusters	1,399	1,399	1,399	1,399	1,399

aOR adjusted odds ratios, CI Confidence Interval; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; 1 = Reference category; PSU Primary Sampling Unit, ICC Intra-Class Correlation, AIC Akaike's Information Criterion

Adjusted for women's age (years), level of education, current working status, multiple sexual unions, exposure to mass media, partners' age (years), wealth index, place of residence, geographical subregions

Model O: Empty model with only the outcome variable, with no explanatory variable or covariate

Model I: Included the outcome variable and the explanatory variable

Model II: Included the outcome variable, explanatory variable, and individual-level covariates

Model III: Included the outcome variable, explanatory variable, and contextual level covariates

Model IV: Included the outcome variable, explanatory variable, and all the covariates

within SSA [55]. Our findings indicate that a significant proportion of women in SSA justify violence, with the highest percentage (33.30%) believing that beating is permissible when a wife neglects her children. Among women in SSA, the lowest percentage of justification for violence was observed in cases when hitting is deemed acceptable if the wife burns the meal (17.15%). Additionally, the study revealed an association between polygyny and the endorsement of violence among women in SSA.

The findings revealed that women in polygynous relationships or having co-wives were more likely to justify beating by husbands if wife goes out without telling the husband. This finding is congruent with that of previous studies [24, 33]. Within the African socio-cultural setting, it is expected that women must inform their husbands of their movements outside the home. This is to mitigate the suspicion of extra-marital affairs, accord the husband the due respect as the head of the household as well as also contribute towards a peaceful co-existence within the family [56]. However, in the cases that women fail to inform their husbands before going out, it may result in the situation of IPV which may be justified by women due to their dependency on their husband as head of the household [57].

Findings from the study revealed that women who had co-wives had more likelihood of justifying beatings

if wife neglects the children compared to women having no co-wives. This finding concurs with existing literature [3, 23]. Seidu et al. [23] reported that women who neglect their children may be at risk of intimate partner abuse. Children represent evidence of couples' fertility and are expected to extend the bloodline of men in African society [58]. As a result, women are expected to play their motherly role in ensuring that the children are taken care of. Women who abdicate on such responsibilities may be seen as irresponsible and may become victims of IPV [45]. Women may justify such violence without recourse to the possibility that women in African settings face a plethora of financial constraints, occupational pressure, and ill health, which may inadvertently affect their ability to perform their motherly roles.

We found that women who have co-wives are more likely to justify wife beating if wife argues with husband compared to women who do not have co-wives. Our finding corroborates the results of a study conducted in Ghana, which reported higher odds of justifying beating if the wife argues with the husband or partner [41]. Within the African culture, women are expected to exercise restraint in challenging the decisions of their partners. A woman who argues or disagree with her partner is seen as being disrespectful and ill-trained. As a result,

Table 6 Association between polygyny and justified beating if wife burns the food among women in SSA

Variables	Model O	Model I aOR [95% CI]	Model II aOR [95% CI]	Model III aOR [95% CI]	Model IV aOR [95% CI]
Fixed effect					
Has co-wives					
No		1.00	1.00	1.00	1.00
Yes		1.59*** [1.52, 1.66]	1.34*** [1.28, 1.40]	1.40*** [1.35, 1.47]	1.31*** [1.25, 1.36]
Random effect model					
PSU variance (95% CI)	1.043 [0.879, 1.238]	0.988 [0.831, 1.174]	0.510 [0.426, 0.611]	0.620 [0.515, 0.746]	0.444 [0.371, 0.531]
ICC	0.241	0.231	0.134	0.158	0.119
Wald chi-square	Reference	398.55 (< 0.001)	2596.60 (< 0.001)	1404.34 (< 0.001)	2803.63 (< 0.001)
Model fitness					
Log-likelihood	− 147,326.06	− 146,452.77	− 140,541.16	− 141,350.81	− 138,451.19
AIC	294,656.1	292,911.5	281,112.3	282,729.6	276,954.4
Total weighted sample	204,804	204,804	204,804	204,804	204,804
Number of clusters	1,399	1,399	1,399	1,399	1,399

aOR adjusted odds ratios, CI Confidence Interval; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; 1 = Reference category; PSU Primary Sampling Unit, ICC Intra-Class Correlation, AIC Akaike's Information Criterion

Adjusted for women's age (years), level of education, current working status, multiple sexual unions, exposure to mass media, partners' age (years), wealth index, place of residence, geographical subregions

Model O: Empty model with only the outcome variable, with no explanatory variable or covariate

Model I: Included the outcome variable and the explanatory variables

Model II: Included the outcome variable, explanatory variable, and individual-level covariates

Model III: Included the outcome variable, explanatory variable, and contextual level covariates

Model IV: Included the outcome variable, explanatory variable, and all the covariates

women may support existing patriarchal hegemony by justifying wife beating under these situations [55]. This is the case in resource-poor and conservative societies where reporting cases of IPV is an issue and institutional response against such cases are not effective [59].

Women who have co-wives are more likely to support wife beating if wife refuses to have sex with their husbands compared to women without co-wives. This finding supports those of previous studies that found similar results [23, 41]. Adewale et al. [41] revealed that women in polygynous relations may suffer from IPV if wife refuses to give her partner sex. In the African context, men are often perceived as having inherent rights over their partners' bodies [60]. This is predominantly the case because men pay huge bride prices to give social legitimacy to their marriage [61]. As a result, the woman is expected to be submissive when her partner demands sexual intercourse. If the woman attempts to challenge the normative power relation and exercise sexual autonomy over her body, she may be subjected to IPV [62]. Consequently, women often support the perpetrator who is the man.

In this study, we found that women who had co-wives were more likely to support wife beating if their wife burns food compared to women who do not have co-wives. Our

finding corroborates the results of previous studies [3, 63]. Traditionally, some African women are expected to be socialized in how to be housewives and to cater to the nutritional needs of the family [45]. Being a housewife may disempower a woman in several ways and make her more reliant on her partner. As a result, in a polygynous union where resources may be limited and wives may compete for the attention of their male partner, there is a possibility of IPV. This may be the case in the situation where the woman does not perform her role as a housewife [64].

Strength and limitations

Our study provides empirical evidence on the association between polygyny and the justification of violence among women in SSA. There are limitations needing acknowledgements. The study used the DHS data, which was collected using a cross-sectional design. This limits our study's ability to make any causal inferences. Due to the sensitive nature of IPV and its related issues and self-reporting technique in collecting the data, there might be the possibility of under- and over reporting, which could have impacted the findings of our study. Moreover, our analysis was limited to the variables only found in the DHS dataset. Hence, any reference and interpretation should be made with regards to the variables used.

Conclusions and recommendation

Our study has shown that women's polygyny status predicts their justification of violence. The endorsement of violence against women within relationships, irrespective of the rationale, undermines worldwide and national endeavors aimed at tackling the issue of IPV and its associated repercussions. It is imperative to implement diverse approaches to effectively tackle the situation. Increased education and awareness campaigns focused on IPV and their negative consequences are expected to play a significant role in effectively tackling this issue, as well as implementing punitive measures against individuals who perpetrate IPV upon their partners. Moreover, women should be educated and sensitized on the effects of upholding deep-rooted negative cultural practices and beliefs such as endorsing wife beatings or accepting violence against women. Also, women should be empowered irrespective of their polygyny status to reject unhealthy acts such as wife beatings.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12889-025-22581-y>.

Supplementary Material 1.

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Authors' contributions

RGA and BOA contributed to the study design and conceptualization. RGA, MAE, KDD, AS, QESA, and BOA drafted the initial draft and performed the analysis. BOA, RGA, and AS provided technical support and critically reviewed the manuscript for its intellectual content. RGA had the final responsibility to submit for publication. All authors read and amended drafts of the paper and approved the final version.

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Data availability

The data used for this study is freely available at <http://dhsprogram.com/data/available-datasets.cfm>.

Declarations

Ethics approval and consent to participate

Ethics approval was not required for this study since the data is secondary and is available in the public domain. Detailed information concerning the DHS data and ethical standards is available via <http://goo.gl/ny8T6X>.

Consent for publication

Not applicable.

Competing interests

BOA is an Associate Editor of this journal. The remaining authors declared that they have no competing interests.

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