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The association between polygyny statuses of currently married and in-union women and attitude towards intimate partner violence against women in Ghana

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ABSTRACT

Polygyny is a common family structure in sub-Saharan African countries. Previous studies have documented that women in this family structure have favourable attitudes towards intimate partner violence (IPV). Nevertheless, there is limited recent research concerning this association in Ghana. This study sought to investigate the association between polygynous statuses and endorsement of IPV among Ghanaian reproductive-aged married and in-union women while controlling for covariates. The study used the nationally representative data from the 2017/2018 Ghana Multiple Indicator Cluster Survey. The sample comprised 7800 married/in-union women aged 15–49. Data analyses included tests of association and multivariable modelling using binary logistic regression. Compared to women in monogamous relations, their counterparts in polygynous relationships were more likely to support the justification for wife-beating if: wife goes out without telling husband (AOR = 1.44, 95% CI: 1.16, 1.80), neglects the children (AOR = 1.29, 95% CI: 1.07, 1.56) argues with husband (AOR = 1.56, 95% CI: 1.28, 1.90), refuses sex with husband (AOR = 1.54, 95% CI: 1.26, 1.90) and burns the food (AOR = 1.52, 95% CI: 1.14, 2.03). No significant relationship was found between women who have ever been in more than one union or marriage and justifications for IPV under any of the five circumstances. Some significant associations were found between other covariates and justifications for IPV under any of the five circumstances. The study revealed that women in polygynous relationships were more likely to support IPV. These findings extend the literature on the relationship between polygyny and endorsement of IPV among reproductive-age women in Ghana. It also contributes evidence towards strengthening interventions and policies geared towards changing attitudes of women in polygynous unions towards intimate partner violence.

1. Introduction

Intimate Partner Violence (IPV) against women is the emotional, economic, physical, verbal, and sexual abuse meted out to women by a male partner (World Health Organization, 2012). Consequences of IPV include injury, chronic pain, gastrointestinal and gynaecological problems, depression, and death amongst women (Campbell, 2002; Peltzer et al., 2013). Global report indicates that one in every three women who have been in a relationship have experienced a form of physical and/or sexual violence by their intimate partner in their lifetime (WHO, 2020). In Ghana, a recent survey using a nationally representative sample reported that about 40%, 35%, and 58% of ever-married women aged 18 years and older have experienced physical violence, sexual violence, and emotional/psychological violence at the hands of their intimate partners, respectively (Tenkorang, 2019). IPV against women is justified to a large extent by the Ghanaian society when a woman neglects her gender roles (Dako-Gyeke et al., 2019; Sikweyiya et al., 2020). Women are slapped, kicked, or humiliated for disobeying their partner, going out without permission, refusing sex, and sometimes neglecting children (Issahaku, 2017; Ogum Alangea et al., 2018). Nevertheless, the level of

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IPV meted out to women is dependent on the type of marital union. Women in polygynous relationships are more likely to experience IPV than those in monogamous unions (Ahinkorah, 2021; Amo-Adjei & Tuoyire, 2016; Behrman, 2019; Ebrahim & Atteraya, 2020; Jansen & Agadjanian, 2020).

Polygyny, which is a marital union between a man and more than one spouse is common in sub-Saharan Africa (Smith-Greenaway & Trinitapoli, 2014). While some writers have attributed polygyny in Africa to the insufficient number of men against women for marriage in post Transatlantic slave trade (Dalton & Leung, 2014), others are of the view that polygyny in Africa has long been a cultural ideal and has existed before the arrival of colonist (Mwambene, 2017). Being more of a cultural function, polygyny seems to be relegated by formal marriage laws and the main religion of the Christian colonists, Christianity (Heaton & Darkwah, 2011). Nevertheless, a man can marry one wife under Ordinance and as many as he wants under Customary marriage in Ghana, so long as the culture allows it (Archampong, 2010Ickowitz & Mohanty, 2015; Mwambene, 2017). Polygyny comes along with some benefits including sharing of the farm or household workload and an increase in fertility rate, especially in places with high child mortality rates (Akresh et al., 2016; Al-Krenawi & Graham, 2006; Jansen & Agadjanian, 2020). Regardless of this, women in polygynous households are also known to experience lower self-esteem, lower life satisfaction, marital dissatisfaction, mental health symptomatology, and IPV (Ahinkorah, 2021; Al-Krenawi, 2013).

Aside from the perpetration of violence in polygynous households, there is also a lot of ill feelings such as anger, jealousy, fear, and quarrelling among co-wives which are attributed to competition for the husband's affection (Jansen and Agadjanian, 2020). This coupled with neglect and unequal share of partner's resources promote conflicts and rivalry among co-wives in polygynous households (Bove et al., 2014; Jankowiak et al. 2005; Tabi et al., 2010). Such levels of animosity and rivalry between co-wives often affect how women in such family structures endorse or justify IPV. Considerable studies have suggested that women in polygynous households tend to have favourable or positive attitudes towards IPV against women (Amo-Adjei & Tuoyire, 2016; Ickowitz & Mohanty, 2015; Uthman et al., 2010). This has several implications including the increased incidence rates of IPV, low reporting of IPV cases, slow uptake of interventions and advocacy against IPV as well as reduced help-seeking behaviours of victims (Ferrer-Perez et al., 2020).

To begin the conversation about strengthening policies and interventions aimed at reducing IPV and its endorsement especially in polygynous households, there is a need for more recent scientific evidence. Sparse research in Ghana have examined correlates of attitudes towards IPV (Anaba et al., 2021; Darteh et al., 2020; Dickson, Ameyaw, Maafo Darteh, 2020; Doku & Asante, 2015; Mann & Takyi, 2009; Takyi and Mann, 2006) and even fewer between polygyny and attitudes towards IPV (Amo-Adjei & Tuoyire, 2016; Ickowitz & Mohanty, 2015; Ola, 2020). Even though these past studies provide useful information in this area, some missing gaps require filling, particularly amongst the latter set. A closer examination of the studies by Amo-Adjei and Tuoyire (2016) as well as Ickowitz and Mohanty (2015) reveals that the authors used datasets 12 years old on average. Despite using three waves of the Ghana Demographic and Health Survey (GDHS) dataset including the most recent, Ola's (2020) study investigated attitudes towards IPV against women only from the perspective of men and found that men in polygamous unions were more likely to endorse IPV. This current paper extends this association using the current nationally representative dataset collected in 2017/2018 from married and in-union women in Ghana. It goes further to examine the association between polygynous statuses of participants and six unique indices of attitudes of IPV against women. Therefore, this study tested the hypothesis that married and in-union women in polygynous households would have positive attitudes towards all five indices of IPV. The goal was to unearth findings that will enable policymakers to structure programs and interventions to target women in polygynous households in a quest to reduce IPV.

1.1. Theoretical background

The study's hypothesis is underpinned by the cultural spill-over theory and resource theory. The cultural spill-over theory was propounded by Baron and Straus in the 1980s to explain the prevalence of violence such as rape in the United States (Baron & Straus, 1987). The theory explains that the more a society approves of the use of violence to achieve an expected end, the higher the likelihood that it will spread to other parts of the society where the application of force is less needed (Lysova & Straus, 2021). Concerning IPV, the theory explains that the more legitimate violence is used and socially accepted, the higher the possibility of experiencing IPV. Due in part to the popular patriarchal social structure, violence against women is legitimized in many Ghanaian societies (Amoah et al., 2019; Sikweyiya et al., 2020). This social structure increases male control and acceptance of violence against women leading to greater exposure to and experience of violence by women (Sikweyiya et al., 2020). The resource theory which was propounded by Uriel Foa in 1971 explains human interactions and relationships in everyday life. The theory explains the difficulty in human beings to remotely satisfy their own needs. Given the difficulty in satisfying their needs in isolation, social relationships and interactions enable human beings to acquire those resources from other people for survival (Foa & Foa, 2012). Concerning IPV, the theory suggests that women may experience IPV depending on how much resources they may have (Cools & Kotsadam, 2017); where they have more resources, this economic empowerment significantly reduces the occurrence of IPV (Eggers Del Campo & Steinert, 2020) and when they lack it, they are victimized due to their dependency on the man's wealth or resource for survival (Basile et al., 2013). This dependency nevertheless increases competition and rivalry amongst women in polygynous households and invariably the use of IPV as men tend to resort to it to settle and discourage disputes (Madhavan, 2002; Rossi, 2019).'

As purported by the cultural spill-over theory, the violence meted out for offences deemed legitimate is likely to get carried into the family systems and even polygynous homes. In this regard, women may be victimized when they burn the food or go out without the husbands' approval for instance, mainly because of their dependency on their resources for survival which makes them vulnerable as professed by the resource theory. They (women) begin to view every action of the man as right, even when these actions are against their wellbeing, making them more susceptible to violence (Dako-Gyeke et al., 2019; Mann & Takyi, 2009). Likewise, when women are exposed to more resources such as income and education, they are less likely to approve IPV (Doku & Asante, 2015). These theories have been consistently used and suggested to provide adequate theoretical support for the occurrence of IPV across the globe (Doku & Asante, 2015; Lawson, 2012; Lysova & Straus, 2021; Ogland et al., 2014). This study taps into the overlapping of these theories to guide its association between attitudes towards IPV in polygynous family structures. Evidence from this paper will provide information on the attitude of women in polygynous unions toward IPV and how these attitudes can be addressed. The findings will also help in strengthening policies and interventions aimed at reducing IPV which commonly occurs in polygynous households.

2. Methods

2.1. Data source and study design

The current study used cross-sectional women data from 2017/2018 Ghana Multiple Indicator Cluster Survey Six (GMICS 6). The GMICS 6 was conducted by Ghana Statistical Service together with the Ghana Health Service (GHS), Ministry of Health (MOH), and the Ministry of Education (Ghana Statistical Service, 2018). The survey was funded and technically supported by the United Nations International Children's

Emergency Fund (UNICEF) and other international donors (Ghana Statistical Service, 2018). The UNICEF launched the Global MICS Programme in the 1990s, as an international multi-purpose household survey initiative to assist countries in collecting internationally comparable data on a wide variety of indicators on the situation of children and women. The primary aim of MICS surveys is to analyse key indicators that help countries produce data for use in national development plans, policies, and programmes, as well as to assess progress towards SDGs and other agreements signed internationally (Ghana Statistical Service, 2018).

2.2. Data collection procedure and study sample

The GMICS 6 relied on a multi-stage, stratified cluster sampling approach. This approach was used to nationally survey children and women in urban and rural areas in the previous 10 administrative regions in Ghana namely, Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo, Northern, Upper East, and Upper West. The data collection sampling frame was based on the Population and Housing Census (PHC) of Ghana in 2010. At the first stage based on the 2010 PHC, enumeration areas (EAs) were identified and selected to represent the primary sampling units (PSUs). Households were sorted in each selected EA and a sample of households was chosen in the second stage using systematic random sampling. The final sample for the sampling strata consisted of 660 clusters and 13202 households (Ghana Statistical Service, 2018). Data about intimate partner violence was collected from 7800 married and in-union women between the ages of 15 to 49 years.

2.3. Measures

2.3.1. Outcome variables

The outcome used in this study was attitudes toward intimate partner violence. Participants were asked whether a husband is justified in beating his wife under varying circumstances including, wife goes out without telling him, wife neglects the children, wife argues with him, wife refuses to have sex with him, and wife burns food. The response format to each of these questions was “Yes = 1”, “No = 2”.

2.3.2. Predictor variables

The predictor variables used in this study centred on marriage or unions. The researchers explored the following: whether the women had co-wives and if they ever were in multiple unions. To find out whether participants had co-wives or not, participants were asked “Besides yourself, does your (husband/partner) have any other wives or partners or does he live with other women as if married?” with a response format requiring an answer “Yes = 1” or “No = 2” to the question. Regarding multiple unions, participants were asked “Have you been married or lived with someone only once or more than once?”. A response scale of “Only Once = 0” and “More than once = 1” was used to capture responses.

2.3.3. Control variables

The control variables used in this study are as follows: woman’s age, woman’s education, household wealth index, rural-urban residence, and region of residence. This selection of covariates was based on findings from previous studies (Amo-Adjei & Tuoyire, 2016; Arënliu et al., 2021; Doku & Asante, 2015; Ickowitz & Mohanty, 2015; Ola, 2020) and their availability in the dataset. More details about these variables can be found elsewhere (Ghana Statistical Service, 2018). To summarize, the majority of the selected variables were measured straightforwardly (e.g., “What is the highest level and grade or year of school you have attended?” with responses requesting participants to indicate their education level) whereas others were compiled from responses to multiple questions like the household wealth index which involved combining responses on household characteristics, possessions and assets (e.g., internet access, number of rooms for sleeping, source of drinking water, ownership of television, radio, vehicles, and access to electricity, among others). The wealth index variable was essentially constructed to produce a ranking of households by wealth, from poorest to richest, by capturing the underlying long-term wealth through information on household assets.

2.4. Data preparation and analysis

Statistical analyses were conducted using Stata version 14. Data cleaning involving re-coding variables was performed for further analysis. Weights were applied to the data to perform univariate analysis. Next, both bivariable and multivariable analyses were performed using binary logistic regression. Before performing these analyses, the complex survey mode command “svyset” was used to adjust for the clusters, stratification, and sample weights. This was purposefully done to account for the complex sampling design within the dataset, to keep track of possible analytical errors, and make proper inferences (West, Sakshaug, & Aurelien, 2016). After this correction, bivariable analysis was performed using the “logistic” command by alternating each predictor variable and control variables against the outcome variables. Afterward, a multivariable analysis was performed to regress the main predictor variables and the control variables on the outcome variables.

2.5. Ethical approval and data availability

Child assents and parental/adult consent were obtained by enumerators before primary data was collected. The dataset that was used is freely available at https://mics.unicef.org/surveys once permission is sought and granted by UNICEF.

3. Results

3.1. Characteristics of participants

A total of 7800 women participated in this study. Out of this number, 18.73% had co-wives and 21.55% have been in more than one union or marriage. Most women were aged 30–34years old (21.77%), had Junior Secondary or Junior high or Middle-level education status (36.86%), belonged to the richest households (23.12%), dwelled in rural areas (53.19%), and lived in the Ashanti region (22.76%). A good number of women endorsed wife beating if the wife goes out without telling husband (19.06%), neglects the children (23.43%), argues with husband (17.92%), refuses sex with husband (15.71%), and burns the food (9.02%). A summary of the characteristics can be found in Table 1.

3.2. Bivariable and multivariable analyses with logistic regression

Separate logistic regression models were used to analyse the relationship between polygyny, multiple union/marriages, covariates (age, education, household wealth index, urban-rural residence, and region of residence), and attitude towards IPV. As shown in Table 2, bivariable (odds ratio models) and multivariable (adjusted odds ratio models) analyses were reported for each of the attitudes towards IPV variables. While the results of interest were those in the multivariable analyses, some significant associations in the bivariable analyses are worth mentioning. For instance, it was found that polygyny was related to all the types of attitudes towards IPV while multiple unions were not. Also, age, education, household wealth index, urban-rural residence, and region of residence were all related to attitudes towards IPV.

Results from the multivariable analyses indicated that the current study’s hypothesis that women in a polygynous relationship will have favourable attitudes towards IPV, after controlling for covariates, was supported. Specifically, women in polygynous relationships were more likely than those not in polygyny to support the assertion that wife-beating is justified if: wife goes out without telling husband (AOR = 1.44, 95% CI: 1.16, 1.80), neglects the children (AOR = 1.29, 95% CI:

Table 1
Summary statistics of study variables (N=7800).

Study variables	Frequency (%)
Dependent variables	
If she goes out without telling husband: wife-beating justified	
No	6164 (80.94)
Yes	1636 (19.06)
If she neglects the children: wife-beating justified	
No	5796 (76.57)
Yes	2004 (23.43)
If she argues with husband: wife-beating justified	
No	6263 (82.08)
Yes	1537 (17.92)
If she refuses sex with husband: wife-beating justified	
No	6458 (84.29)
Yes	1342 (15.71)
If she burns the food: wife-beating justified	
No	7013 (90.98)
Yes	787 (9.02)
Independent variable	
Has co-wives	
No	6127 (81.27)
Yes	1673 (18.73)
Multiple unions/marriages	
No	6305 (78.45)
Yes	1495 (21.55)
Control variables	
Age	
15–24	1292 (12.55)
25–29	1331 (17.43)
30–34	1434 (21.77)
35–39	1419 (18.94)
40–44	1256 (16.81)
45–49	1068 (12.50)
Education	
None or pre-primary	2572 (26.98)
Primary	1446 (19.81)
JSS/JHS/Middle	2553 (36.86)
SSS/SHS/Secondary	810 (10.77)
Higher	419 (5.57)
Household wealth index	
Poorest	2131 (19.01)
Poorer	1367 (18.72)
Middle	1335 (18.41)
Richer	1399 (20.74)
Richest	1568 (23.12)
Urban-Rural residence	
Urban	3334 (46.81)
Rural	4466 (53.19)
Region of residence	
Western	711 (9.99)
Central	684 (9.64)
Greater Accra	781 (11.53)
Volta	703 (8.03)
Eastern	733 (11.93)
Ashanti	967 (22.76)
Brong Ahafo	675 (8.75)
Northern	995 (11.39)
Upper East	706 (3.32)
Upper West	845 (2.65)

1.07, 1.56) argues with husband (AOR = 1.56, 95% CI: 1.28, 1.90), refuses sex with husband (AOR = 1.54, 95% CI: 1.26, 1.90) and burns the food (AOR = 1.52, 95% CI: 1.14, 2.03). There was no significant relationship between women who have ever been in more than one union or marriage and all forms of IPV. Some significant associations between the covariates and IPV were found. Increasing age, educational level, and household wealth index were generally protective such that women of older age, who gained higher levels of education and who belonged to a richer or richest household were less likely to endorse IPV. Women who dwelled in rural areas on the other hand were more likely to agree to IPV. Compared to women who lived in Greater Accra, those living in Western, Central, Eastern, Ashanti, Brong Ahafo, Northern, Upper West, and Upper East regions except Volta region greatly support some or all forms of intimate partner violence.

4. Discussion

The study aimed to examine the association between polygynous union status and Ghanaian women's attitude toward intimate partner violence against women, using data from the 2017/2018 Ghana Multiple Indicator Cluster Survey. Consistent with findings across 16 sub-Saharan African countries (Ahinkorah, 2021), we found that about 19% of married/in-union women were in a polygynous relationship less than the 81% who were in a monogamous union. Findings further indicate that compared to women in monogamous relationships, women in polygynous unions had positive/supportive attitudes toward IPV. Age, education level, household wealth index, urban-rural residence, and region of residence were also associated with the attitudes toward IPV. No significant relationship was found between multiple union/-marriage status and attitude toward IPV.

Women in polygynous relationships were more likely to support all indices of attitudes towards IPV compared to their counterparts in a monogynous relationship. This concurs with past studies carried out in Ghana (Amo-Adjei & Tuoyire, 2016; Ickowitz & Mohanty, 2015; Ola, 2020). The resource and cultural spillover theories collectively provide explanations for this finding. Specifically, tenets central to these theories such as resource dependency, violence usage legitimacy and rivalry amongst co-wives (Lawson, 2012; Lysova & Straus, 2021; Ogland et al., 2014) coupled with the high incidences of IPV in polygynous households (Ahinkorah, 2021; Behrman, 2019; Ebrahim & Atteraya, 2020; Jansen & Agadjanian, 2020) plausibly explain our finding. In more details, due to the resource dependency created in most Ghanaian polygynous households, wives end up competing for their husbands' (often scant) resources which in turn leads to animosity between co-wives (Ahinkorah, 2021; Ickowitz & Mohanty, 2015; Tabi et al., 2010). Once these resources are inequitably distributed, for example, in situations where senior wives notice junior wives are getting more, quarrels and discord may ensue (Behrman, 2019; Jansen & Agadjanian, 2020). Even with adequate resources, support to one wife will need to be similarly replicated to the other, lest an uprise in jealousy and ill-feeling toward the rival. To exert control, quell disputes and protect hegemony, husbands may resort to the use of physical and emotional violence (Ebrahim & Atteraya, 2020; Jansen & Agadjanian, 2020). This continuous exposure of IPV may become normalized by wives, creating an atmosphere where IPV against co-wives is supported. It is, therefore, necessary for such families to find more amicable ways to resolve perennial conflicts to help reduce rivalry between co-wives and the continuous use of IPV by men. However, no significant relationship was found between multiple unions or marriage status and attitude towards IPV. In other words, a history of previous unions or marriages did not affect women's support for IPV. Much work in this area is yet to be carried out in Ghana to understand the underlying factors to these findings. This calls for further study to understand this relationship.

Married women aged 25–49 years were less likely than married women aged 15–24 years to approve IPV; a finding that resonates with the latest data by the WHO (World Health Organization, 2021). This finding also suggests that women aged 15–24 years old are more likely to approve IPV. It is evidenced in the literature that a woman's age affects her endorsement and justification of IPV (Dickson, et al., 2020). However, the relationship between age and its relationship with IPV endorsement is inconclusive. While some writers purport that increasing age is inversely related to the likely endorsement of IPV (Doku & Asante, 2015; Joshi & Childress, 2017), others believe otherwise (Stickley et al., 2008; Uthman, Lawok & Moradi, 2009; Waltermaurer et al., 2013). Earlier studies among women attribute the negative relationship between increasing age and IPV approval to the adequate impact of learning and exposure in changing perceptions (Doku & Asante, 2015; Joshi & Childress, 2017). In effect, it is asserted that older married and in-union women having greater exposure may be more inclined to oppose IPV because they have learnt and perhaps experienced its heinous effects on health and well-being (Twum-Danso Imoh, 2013). It is

Table 2
Polygynous union status of currently married women regressed on attitudes toward IPVs, controlling for other sociodemographic variables.

	IPV1		IPV2		IPV3		IPV4		IPV5	
	OR [95% CI]	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**
Independent variable										
Has co-wives										
No	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Yes	2.47*** [2.03, 3.02]	1.44** [1.16, 1.80]	2.05*** [1.72, 2.45]	1.29** [1.07, 1.56]	2.39*** [2.01, 2.83]	1.56*** [1.28, 1.90]	3.02*** [2.47, 3.71]	1.54*** [1.26, 1.90]	2.59*** [2.03, 3.30]	1.52** [1.14, 2.03]
Multiple unions/marriages										
No	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Yes	0.94 [0.77, 1.16]	0.93 [0.75, 1.15]	1.00 [0.84, 1.21]	1.05 [0.86, 1.28]	0.82 [0.67, 1.01]	0.87 [0.70, 1.08]	0.98 [0.78, 1.22]	1.09 [0.86, 1.39]	0.82 [0.62, 1.07]	0.87 [0.66, 1.16]
Control variables										
Age										
15-24	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
25-29	0.73* [0.54, 0.97]	0.80 [0.59, 1.08]	0.58*** [0.47, 0.73]	0.62*** [0.49, 0.79]	0.59*** [0.46, 0.77]	0.61*** [0.47, 0.82]	0.73* [0.57, 0.96]	0.75* [0.56, 0.99]	0.67* [0.47, 0.96]	0.68* [0.47, 0.98]
30-34	0.63*** [0.50, 0.79]	0.71** [0.56, 0.91]	0.57*** [0.44, 0.74]	0.64** [0.48, 0.87]	0.65*** [0.50, 0.84]	0.71* [0.54, 0.93]	0.95 [0.71, 1.28]	1.08 [0.80, 1.46]	0.74 [0.53, 1.03]	0.80 [0.58, 1.12]
35-39	0.68** [0.52, 0.89]	0.66** [0.50, 0.87]	0.57*** [0.45, 0.73]	0.56*** [0.43, 0.74]	0.61*** [0.47, 0.78]	0.59*** [0.45, 0.78]	0.96 [0.73, 1.25]	0.91 [0.68, 1.22]	0.69* [0.49, 0.97]	0.65* [0.46, 0.93]
40-44	0.72* [0.56, 0.93]	0.72* [0.56, 0.93]	0.58*** [0.44, 0.76]	0.59*** [0.44, 0.78]	0.72* [0.56, 0.93]	0.73* [0.56, 0.96]	0.97 [0.74, 1.27]	0.96 [0.71, 1.30]	0.66* [0.46, 0.95]	0.63* [0.43, 0.92]
45-49	0.71* [0.54, 0.92]	0.68** [0.51, 0.92]	0.54*** [0.42, 0.70]	0.54*** [0.40, 0.72]	0.56*** [0.42, 0.73]	0.55*** [0.41, 0.74]	0.94 [0.70, 1.25]	0.92 [0.67, 1.28]	0.76 [0.54, 1.07]	0.76 [0.53, 1.10]
Education										
None or pre-primary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Primary	0.61*** [0.49, 0.75]	0.89 [0.71, 1.13]	0.60*** [0.50, 0.73]	0.84 [0.69, 1.03]	0.53*** [0.44, 0.65]	0.78* [0.62, 0.97]	0.45*** [0.34, 0.57]	0.77 [0.57, 1.02]	0.59*** [0.45, 0.76]	0.93 [0.68, 1.29]
JSS/JHS/ Middle	0.33*** [0.27, 0.41]	0.59*** [0.48, 0.74]	0.48*** [0.40, 0.58]	0.77* [0.64, 0.94]	0.49*** [0.39, 0.62]	0.83 [0.65, 1.07]	0.27*** [0.22, 0.34]	0.58*** [0.45, 0.74]	0.37*** [0.27, 0.51]	0.70* [0.49, 0.99]
SSS/SHS/ Secondary	0.16*** [0.11, 0.23]	0.36*** [0.30, 0.63]	0.30*** [0.19, 0.47]	0.56* [0.35, 0.90]	0.30*** [0.21, 0.42]	0.57** [0.39, 0.85]	0.22*** [0.15, 0.34]	0.58* [0.35, 0.95]	0.16*** [0.10, 0.26]	0.34*** [0.19, 0.60]
Higher	0.06*** [0.03, 0.12]	0.19*** [0.09, 0.39]	0.09*** [0.05, 0.15]	0.19*** [0.11, 0.33]	0.12*** [0.06, 0.22]	0.25*** [0.12, 0.50]	0.07*** [0.03, 0.13]	0.19*** [0.09, 0.38]	0.10*** [0.05, 0.22]	0.23*** [0.10, 0.54]
Household wealth index										
Poorest	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Poorer	0.71** [0.57, 0.88]	0.93 [0.73, 1.19]	0.79 [0.61, 1.04]	1.07 [0.81, 1.40]	0.77 [0.58, 1.02]	1.04 [0.79, 1.36]	0.63** [0.53, 0.88]	0.99 [0.77, 1.26]	0.67* [0.49, 0.91]	0.96 [0.71, 1.28]
Middle	0.62** [0.47, 0.82]	1.04 [0.76, 1.42]	0.58*** [0.46, 0.73]	0.97 [0.75, 1.26]	0.67** [0.51, 0.89]	1.19 [0.87, 1.63]	0.48*** [0.35, 0.64]	0.96 [0.68, 1.35]	0.47*** [0.32, 0.70]	0.92 [0.60, 1.41]
Richer	0.34*** [0.25, 0.55]	0.67* [0.48, 0.96]	0.46*** [0.35, 0.59]	0.92 [0.69, 1.24]	0.54*** [0.41, 0.72]	1.12 [0.81, 1.55]	0.34*** [0.25, 0.46]	0.85 [0.58, 1.25]	0.32*** [0.21, 0.48]	0.78 [0.50, 1.24]
Richest	0.11*** [0.07, 0.16]	0.32*** [0.20, 0.50]	0.22*** [0.16, 0.29]	0.65* [0.46, 0.92]	0.25*** [0.18, 0.34]	0.75 [0.50, 1.13]	0.15*** [0.11, 0.21]	0.56** [0.35, 0.89]	0.19*** [0.12, 0.30]	0.78 [0.44, 1.40]
Urban-Rural residence										
Urban	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Rural	2.34*** [1.81, 3.03]	1.15 [0.94, 1.40]	2.27*** [1.88, 2.73]	1.44** [1.16, 1.79]	2.07*** [1.68, 2.55]	1.43** [1.09, 1.88]	2.42*** [1.85, 3.16]	1.33* [1.03, 1.71]	2.83*** [2.16, 3.69]	1.71*** [1.26, 2.33]
Region of residence										
Western	3.23*** [1.68, 6.23]	1.88* [1.00, 3.54]	3.29*** [2,00 5.41]	2.13** [1.33, 3.41]	2.92*** [1.81, 4.69]	1.98** [1.23, 3.19]	9.39*** [3.97, 22.21]	6.41*** [2.80, 14.67]	783*** [3.21, 19.07]	4.74*** [1.98, 11.37]
Central	4.19*** [2.17, 8.09]	2.55** [1.35, 4.82]	3.85*** [2.33, 6.36]	2.58** [1.60, 4.15]	3.02*** [1.82, 5.01]	2.13*** [1.31, 3.49]	6.27*** [2.73, 14.38]	4.38*** [1.97, 9.75]	4.98*** [2.25, 11.05]	3.22** [1.44, 7.20]
Greater Accra	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Volta	1.50 [0.76, 2.94]	0.59 [0.31, 1.12]	1.29 [0.76, 2.19]	0.66 [0.38, 1.13]	1.41 [0.83, 2.40]	0.77 [0.45, 1.33]	2.83* [1.17, 6.84]	1.40 [0.59, 3.29]	3.89** [1.54, 9.83]	1.79 [0.66, 4.85]
Eastern	2.08* [1.06, 4.07]	1.17 [0.60, 2.31]	1.60 [0.95, 2.68]	1.04 [0.63, 1.73]	2.64*** [1.49, 4.69]		3.19* [1.28, 7.97]	2.20 [0.89, 5.40]	2.31 [0.86, 6.21]	1.43 [0.52, 3.94]

(*continued on next page*)

Table 2 (*continued*)

	IPV1		IPV2		IPV3		IPV4		IPV5	
	OR [95% CI]	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**	**OR [95% CI]**	**AOR [95% CI]**
						1.88* [1.04, 3.39]				
Ashanti	3.22*** [1.69, 6.15]	2.08* [1.15, 3.78]	2.98*** [1.85, 4.78]	2.17*** [1.40, 3.37]	4.16*** [2.58, 6.72]	3.16*** [2.00, 4.99]	8.27*** [3.65, 18.72]	6.07*** [2.79, 13.22]	9.75*** [4.50, 21.11]	6.86*** [3.14, 15.00]
Brong Ahafo	3.94*** [2.10, 7.39]	1.98* [1.08, 3.65]	3.54*** [2.16, 5.81]	2.23*** [1.40, 3.57]	4.84*** [3.07, 7.65]	3.23*** [2.03, 5.13]	10.68*** [4.70, 24.26]	6.47*** [2.90, 14.44]	9.29*** [4.20, 20.55]	5.32*** [2.34, 12.10]
Northern	13.73*** [7.39, 25.52]	4.28*** [2.25, 8.13]	10.48*** [6.61, 16.60]	4.73*** [2.98, 7.50]	12.83*** [8.20, 20.10]	6.12*** [3.79, 9.88]	40.64*** [18.26, 90.47]	15.99*** [7.03, 36.38]	25.62*** [12.14, 54.09]	9.30*** [4.13, 20.95]
Upper East	5.64*** [3.00, 10.61]	1.99* [1.04, 3.83]	5.00*** [3.09, 8.08]	2.45*** [1.51, 3.97]	3.97*** [2.4, 6.52]	2.12** [1.25, 3.59]	13.45 [5.98, 30.22]	6.09*** [2.62, 14.11]	16.67*** [7.70, 36.08]	6.80*** [2.96, 15.60]
Upper West	6.03*** [3.27, 11.11]	2.09* [1.07, 4.06]	5.17*** [3.31, 8.06]	2.48*** [1.56, 3.93]	6.38*** [4.19, 9.73]	3.29*** [2.09, 5.20]	19.64** [8.82, 43.73]	8.52*** [3.66, 19.87]	11.60*** [5.38, 24.98]	4.52*** [1.98, 10.29]
Model details										
number of strata		20		20		20		20		20
number of PSU		660		660		660		660		660
Number of cases		7800		7800		7800		7800		7800
Population size		8086		8086		8086		8086		8086
Design df		640		640		640		640		640
F (25, 616) =		15.01		15.54		14.39		20.46		11.38
p-value		p <0.001		p <0.001		p <0.001		p <0.001		p <0.001

IPV1: If she goes out without telling husband: wife-beating justified
IPV2: If she neglects the children: wife-beating justified
IPV3: If she argues with husband: wife-beating justified
IPV4: If she refuses sex with husband: wife-beating justified
IPV5: If she burns the food: wife-beating justified

Exponentiated coefficients; 95% confidence intervals in brackets* p<0.05, ** p<0.01, *** p<0.001; OR=Odds ratio; AOR = Adjusted odds ratio.

interesting that the older generation, likely to have lower education on average tend to have a negative attitude toward IPV, compared to the younger generation who have a higher chance of attaining higher education (Graetz et al., 2018). Perhaps, resting in the adage, "experience is the best teacher", we can say that regardless of the lower education of older women, their exposure to IPV informs their attitude. The opposite of less exposure and experience regardless of the higher educational attainment of young women in polygynous households might lie in the same adage. Younger women may not have had adequate exposure or experience compared to their older counterparts and for that matter might endorse IPV as seen in this study

Results also revealed that the higher the woman's level of education, the less likely it is for her to endorse IPV against a woman. The opposite of this relationship is true: women with lower education were more approving of IPV. This is consistent with earlier studies showing that education does not only offer essential decision-making knowledge but also promotes empowerment and autonomy (Doku & Asante, 2015; Joshi & Childress, 2017; Oyediran & Isiugo-Abanihe, 2005). The independence and knowledge gained influence women's views about IPV to become more intolerant of IPV. Understandably, educated women are well informed of the negative implications of IPV (physical and psychological harm) whereas less-educated women are less aware of the effects of such actions (Amo-Adjei & Tuoyire, 2016). Highly educated women are ambitious and empowered to achieve greater heights ((Parvazian, Gill, & Chiera, 2017)). It is also possible that highly educated married women have aspirations and future goals they aim to pursue and are not ready to mar these with the consequences associated with IPV.

Married and in-union women who were in richer and richest wealth index categories were less likely to approve IPV against wives compared to those from the poorest wealth index. This finding partly deviates from earlier studies (Doku & Asante, 2015) which found women within higher wealth index including those in the middle and richer index to endorse IPV. Regardless, this study is consistent with the finding that increasing wealth is inversely related to women's approval of IPV against wives (Amo-Adjei & Tuoyire, 2016; Mann & Takyi, 2009). Economic independence explains this relationship as purported by resource theory. Women in a household with higher wealth may be more resourced and their dependency on their partners may be significantly reduced. Such independence may remove the cultural restrictions placed on them to condone IPV as well as empower them to seek legal redress should it happen.

Differences exist between married women in the urban-rural residential divide and their approval of IPV. Consistent with previous studies (Amo-Adjei & Tuoyire, 2016; Doku & Asante, 2015; Joshi & Childress, 2017; Schuler and Islam, 2008), women residing in rural communities were found to be more likely to approve IPV than those in urban communities. The rural-urban difference in attitudes to IPV approval is partly attributed to the inequalities in women empowerment campaigns, particularly in rural areas (Doku & Asante, 2015). Another reason for the high approval of IPV among married women in rural areas compared to urban women is that the chances of grander economic independence and higher education are countless in urban communities compared to rural settlements (Joshi & Childress, 2017; Uthman et al., 2009). These available opportunities to women in the urban areas are likely to increase their level of empowerment and autonomy to disapprove IPV. In this regard, increasing women's access to resources such as employment and higher education in rural communities is pertinent to curbing women's endorsement of IPV.

Finally, married women's endorsement of IPV varied with the region

of residence, similar to findings in other parts of the world—Kazakhstan, Kyrgyzstan, and Tajikistan (Joshi & Childress, 2017), Nigeria (Oyediran, 2016) as well as Ghana (Amo-Adjei & Tuoyire, 2016). Although an explanation for the regional variations is not fully known to the authors, some cultural and traditional practices may be responsible. Nevertheless, it is interesting to know that the women who lived in Western, Central, Eastern, Ashanti, Brong Ahafo, Northern, Upper West, and Upper East regions except the Volta region were more likely to endorse IPV compared with those in the Greater Accra region. Women in Greater Accra, which is highly urbanized, may disapprove of IPV because they may have higher education, be exposed to gender-egalitarian views and campaign messages against IPV (Joshi & Childress, 2017). For women in Northern and Upper West regions, it is plausible that staunch cultural belief and practices may be maintaining their endorsement of IPV. It is noted that the Mole-Dagbani ethnic group who are mostly found in the Northern and Upper West regions are conservationists with patriarchal attitudes (Amo-Adjei & Tuoyire, 2016). Ostensibly, this socio-cultural dimension makes women in these areas normalize male engagement in IPV as culturally appropriate, and this may partly explain their support for IPV. An exception to the rural-urban explanation to IPV endorsement is that of the Volta region which despite being highly rural has women with less supportive attitudes towards IPV.

4.1. Implications for interventions

Intervention programs in Ghana must be strengthened and focus on changing favourable attitudes of women in polygynous households on IPV since this could be a possible hindrance to reporting of incidences of IPV. Women in polygynous households may not be able to exploit opportunities to curb the IPV they currently face. It is likely that women in such unions may experience a lot of timidity (Al-Krenawi & Graham, 2006, 2013) and may not be able to propose new ideas to improve their health such as condom use to prevent HIV (Rani & Bonu, 2009) or "sex free" days because they are likely to be punished even if they should refuse the husband sex. Given that some women in polygynous households need their husband's approval before going out, it is likely that these women may be prevented from programs or policies that seek to empower women to rise against IPV or even improve their health. They may not be able to build up resources such as higher education or increase their income level. The lack of these resources deepens their susceptibility to more violence, making it difficult for interventions to bear the necessary results. Therefore, intervention programs strategically targeted at women in polygynous unions should be designed. Policies and interventions such as LEAP and Free Maternal Healthcare targeted at addressing economic independence have focused on women in general (Tenkorang, 2018) without key attention to women in polygynous households/ unions. Focus on women in such unions will specifically address their attitudes toward IPV and contribute to the holistic response on IPV prevention. Campaigns on ending IPV should be intensified and include programs to improve the economic freedom of women as well. Continuous public education through media channels should be used to target women who may fall outside the formal education system, some of which may be artisans or found in the markets as their place of work. More importantly, it is integral that traditional leaders and men be involved in all these interventions to change people's positive attitudes towards IPV. Studies have proven that involving men in the intervention on IPV against women yields good results (Tolman et al., 2019). That being said, there is the need for legislation against IPV to corroborate these intervention programs and bring a more lasting solution to this issue.

4.2. Strengths and limitations

One major strength of this study is the use of large sample size and a nationally representative dataset. This quality of the dataset increases the generalizability of the findings. Also, the use of a nationally representative sample based on robust data collection and cleaning steps minimizes systematic errors. This study also used a complex sample design which is appropriate for complex surveys. However, some important limitations need to be noted. Data was only collected on women's attitude of IPV but not the actual violence and we, therefore, acknowledge our inability to analyse data on the association between polygyny and the actual experience of IPV and its multiple types (e.g., emotional violence, physical violence, or psychological violence). Since the data were secondary, the authors had no control over the measurement of the variables. Therefore, important variables measuring the characteristic of household head, decision-making status, and patriarchy which informs social legitimacy of IPV (Afiaz et al., 2020; Sikweyiya et al., 2020) could not be included in the analyses. Future studies are encouraged to use other methodologies that will make room for more control. The cross-sectional nature of the study prevents making any causal inferences between the predictors and the outcome variables. Additionally, the sample only comprised of married or in-union women between 15 and 49 years, limiting its generalization to other prominent groups such as women above 49 or in no relationship.

4.3. Conclusion

The present study revealed that married and in-union women in polygynous households are more likely to support all indices of IPV, compared to their counterparts in a monogynous household. Furthermore, married women aged 25 to 49 years, having a higher level of education, residing in an urban area, belonging to a richer and richest household as well as residing in Western, Central, Eastern, Ashanti, Brong Ahafo, Northern, Upper West, and Upper East regions except Volta region were less likely to endorse IPV. The findings provide more recent information to help strengthen discourse, interventions, and policies aimed at correcting unfavourable attitudes amongst married Ghanaian women, especially those in polygynous households.

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CRediT authorship contribution statement

Dorcas Adewale: Conceptualization, Investigation, Visualization, Roles/Writing - original draft, Writing – review & editing. **Nutifafa Eugene Yaw Dey:** Conceptualization, Data curation, Investigation, Project administration, Resources, Software, Roles/Writing - original draft, Writing – review & editing. **Kenneth Owusu Ansah:** Investigation, Methodology, Validation, Visualization, Roles/Writing - original draft, Writing – review & editing. **Henry Ofori Duah:** Investigation, Methodology, Validation, Visualization, Writing – review & editing. **Pascal Agbadi:** Conceptualization, Data curation, Formal analysis, Investigation, Resources, Software, Writing – review & editing.

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