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Marital Control Behaviours and Spousal violence: Evidence of a Dose-Response Relationship from Malawi National Survey Data

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Abstract

Marital control behaviours reflect entrenched gendered power inequalities and are increasingly recognised as central to the persistence of spousal violence. However, evidence on their cumulative effects remains limited in Malawi. This study examines the prevalence of marital control behaviours and their association with spousal violence among ever-married women in Malawi. Pooled nationally representative data from the Malawi Demographic and Health Surveys (2005, 2010, and 2016) were analysed, including 16,668 women aged 15-49 who completed the domestic violence module. Marital control was measured using five standard indicators and categorised into graded levels (safe, low, moderate, and high). Survey-weighted descriptive analyses, generalised ordered logit models, and multivariable logistic regression were used to assess patterns of marital control and its association with emotional, physical, sexual, and any spousal violence. More than two-thirds of women reported at least one controlling behaviour, and nearly half experienced moderate to high levels of marital control. Surveillance and jealousy were the most prevalent forms. A strong dose–response association was observed between marital control intensity and spousal violence. Compared with women in safe relationships, those experiencing high marital control had substantially higher odds of emotional (AOR=10.14; 95% CI:8.47-12.13), sexual (AOR=6.76; 95% CI 5.59-8.16), physical (AOR=5.72; 95% CI 4.86–6.74), and any spousal violence (AOR=7.50; 95% CI:6.49-8.66). Partner alcohol use and regional context were consistently associated with higher levels of marital control, while socioeconomic resources offered limited protection against severe control. These findings highlight marital control as a prevalent and cumulative risk factor for spousal violence in Malawi, underscoring the need for prevention strategies that address controlling behaviours alongside physical and sexual abuse within marriage.

Keywords: Marital control; Spousal violence; Coercive control; Gender power relations; Malawi

Background

Marital control behaviours reflect unequal power dynamics within intimate partnerships and are increasingly recognised as central to the persistence of spousal violence. Although an estimated 27% of ever-partnered women globally experience lifetime spousal violence, prevalence is substantially higher in Malawi, where about 42% of ever-married women report such violence (Barlow and Walklate, 2022; Tolmie *et al.*, 2024). This disparity underscores the importance of examining marital control and violence within specific socio-cultural and structural contexts, consistent with global commitments to eliminate violence against women and girls under Sustainable Development Goal (SDG) 5. Controlling behaviours- such as jealousy, accusations of infidelity, restrictions on social contact, and surveillance of women's movements- constitute routine mechanisms through which power is exercised within intimate relationships (Barlow and Walklate, 2026). These behaviours operate by constraining autonomy, undermining decision-making capacity, and isolating women from social and institutional support systems (Alhassan, 2024). Rather than episodic acts, they represent ongoing practices that shape women's everyday lives and increase vulnerability to emotional, physical, and sexual violence.

In Malawi, marital control behaviours are embedded within a broader patriarchal social order shaped by historically patrilineal systems that support men authority on household, economic, and socio-cultural autonomy and decision making (Sikweyiya *et al.*, 2020). Empirical evidence indicates that these masculinity power dominances contribute to persistently gender dynamics like limited women's autonomy and empowerment and high risk of spousal violence (Mossie *et al.*, 2023). Within such contexts, marital control behaviours reflect structural gender power relations sustained through social norms, customary practices, and economic dependency rather than isolated interpersonal dynamics (Aboagye *et al.*, 2022; Stöckl *et al.*, 2021).

Recent global spousal violence scholarship increasingly conceptualises controlling behaviours and physical violence as existing along a continuum of coercion, challenging binary distinctions between psychological and physical abuse (Kamndaya *et al*., 2015). For instance, coercive control, characterised by sustained patterns of domination, intimidation, isolation, and surveillance, has been documented in up to 58% of spousal violence relationships and is associated with particularly severe harms to women's mental health and wellbeing (Rahaman, Sen, et al., 2022). Importantly, coercive control is defined by an accumulating course of conduct that progressively restricts women's freedom and capacity for self-determination (Barlow and Walklate, 2022; Tolmie *et al.*, 2024). Despite growing international recognition of coercive control, important empirical gaps remain, particularly in low- and middle-income countries (LMICs). Most quantitative studies have examined controlling behaviours as individual correlates or predictors of spousal violence rather than as cumulative exposures that may intensify such violence (McClintock *et al.*, 2022). Consequently, evidence is limited on whether exposure to multiple forms of control confers progressively higher risks of emotional, physical, and sexual violence, or whether a dose–response relationship exists between levels of control and spousal violence outcomes (Wado *et al*., 2021). The social and spatial patterning of marital control, and the contextual factors shaping its distribution, also remain poorly understood in sub-Saharan Africa (Mossie *et al.*, 2023).

Theoretical frameworks offer critical insights into these dynamics. Gender and Power Theory situates marital control and spousal violence within broader systems of gender inequality operating across societal, community, and relational levels (Jewkes *et al.*, 2015). From this perspective, marital control behaviours function as systematic strategies through which male dominance and

female subordination are reproduced (Hattery, 2022). Complementing this structural lens, Stress Process Theory conceptualises repeated exposure to controlling behaviours as a chronic interpersonal stressor that accumulates over time, eroding wellbeing and increasing vulnerability to more severe forms of violence (Pearlin *et al*., 1981; Turner, 2009, 2013).

In Malawi, where the burden of spousal violence remains substantial, empirical research examining the predictors of marital control behaviours and their association with spousal violence using recent nationally representative data is limited. This study addresses these gaps by analysing the accumulation and clustering of marital control behaviours among ever-married women in Malawi, identifying key social, economic, and demographic predictors, and assessing whether increasing levels of marital control are associated with higher risks of emotional, physical, and sexual spousal violence. By conceptualising marital control as a cumulative exposure, this study contributes to the spousal violence literature on coercive control and provides policy-relevant evidence to inform SDG 5–aligned strategies on violence prevention, women's autonomy, and gender equality in Malawi and comparable settings.

Conceptual Framework

Fig. 1 presents the conceptual framework underpinning this study, grounded primarily in Gender and Power Theory (Connell, 1987; Wingood and DiClemente, 2002). This theory conceptualises spousal violence as arising from structurally embedded gender inequalities that shape access to resources, authority, and decision-making within intimate relationships. Within this framework, marital control behaviours are understood as relational expressions of unequal power produced by social, cultural, and economic arrangements rather than as isolated interpersonal actions. Guided by this theoretical lens and supported by empirical evidence, the present sudy conceptualise marital control behaviours as core indicators of coercive dynamics within marriage. Women's exposure to these behaviours is shaped by background characteristics, including demographic factors (age and education), socioeconomic position (wealth quintile), cultural context (religion and ethnicity), partner characteristics (husband's occupation and alcohol use), and relational differentials (age and education gaps between spouses). These factors are treated as structural and relational determinants of power within marriage.

Drawing on Stress Process Theory (Pearlin *et al*., 1981; Turner, 2009), the framework further conceptualises repeated exposure to marital control as a chronic psychosocial stressor that may accumulate over time and increase susceptibility to emotional, physical, and sexual spousal violence (Jewkes *et al.*, 2002). Accordingly, marital control is operationalised as a cumulative exposure and categorised into four graded levels (safe, low, moderate, and high) based on the number of controlling behaviours experienced. Rather than assuming linear or unidirectional causality, the framework situates marital control and spousal violence along a continuum of coercive practices. It explicitly models a dose–response relationship, whereby increasing levels of marital control are empirically hypothesised to be associated with progressively higher risks of spousal violence. This approach reflects both theoretical insights and emerging evidence that coercive control operates through the accumulation and intensification of everyday practices that constrain women's autonomy.

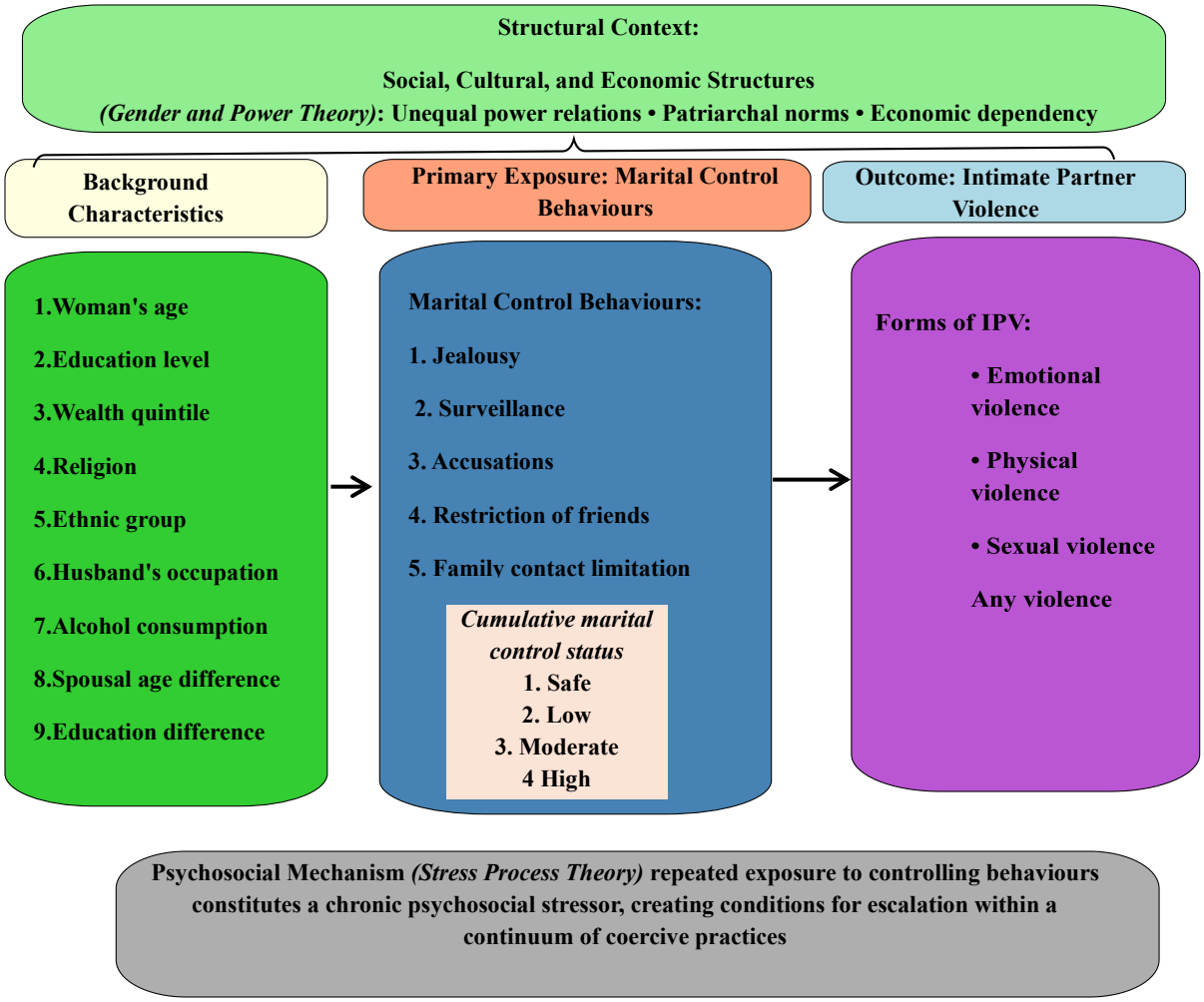


Fig. 1 Theory-informed conceptual framework linking structural and relational determinants of marital control behaviours to spousal violence among married women in Malawi

Method

Study Design and Data Source

This study used pooled data from three rounds of the Malawi Demographic and Health Surveys (DHS) conducted in 2005, 2010, and 2016. These surveys form part of the Integrated Household Survey (IHS) programme and employ a two-stage stratified cluster sampling design. Pooling the three survey rounds was appropriate because the domestic violence module is administered only to a subsample of women in each round, resulting in limited sample sizes for single-year analyses. Combining the DHS's harmonised questionnaires and consistent measurement structure across rounds enhance the statistical power to estimates the outcomes. The pooled dataset included 16,668 ever-partnered women aged 15-49 who completed the domestic-violence module, representing 44.8% from 2005, 27.5% from 2010, and 27.7% from 2016. Only respondents who were administered and completed the violence questions were eligible for inclusion, ensuring a consistent analytic population across survey rounds. All analyses applied DHS sampling weights, primary sampling units, and strata to account for the complex survey design and to produce

nationally representative estimates, with interview year included in the models to adjust for period differences.

Outcome variable

Spousal violence outcomes were derived from standard DHS items capturing women's experiences of violence by a current or most recent partner. Four binary outcomes were defined: emotional violence, physical violence, sexual violence, and any spousal violence. The composite "any spousal violence" indicator was coded as 1 if a respondent reported at least one form of emotional, physical, or sexual violence and 0 otherwise (Rahaman *et al*., 2022).

Key explanatory variable

Prior to existing international literature, marital control behaviours are considered as key explanatory variable. was measured using five items from the DHS domestic violence module that capture controlling behaviours by a husband or partner. Women were asked whether their partner: (i) becomes jealous when she talks to other men, (ii) accuses her of being unfaithful, (iii) does not permit her to meet her female friends, (iv) tries to limit her contact with family members, and (v) insists on knowing where she is at all times. Each item was coded as a binary indicator (1 = yes, 0 = no). Further, a cumulative marital control behaviours score was constructed by summing the five binary indicators, producing a score ranging from 0 to 5(Croft *et al.*, 2018). Higher scores indicate greater intensity of controlling behaviour. Consistent with DHS-based literature, the summative score was categorised into four ordered levels: no control (0 behaviours), low control (1 behaviour), moderate control (2 behaviours), and high control (three or more behaviours). This categorisation reflects increasing severity of partner control and supports ordinal modelling approaches(Bates and Taylor, 2019; Kotsadam and Villanger, 2025).

Covariates

Covariates were selected based on prior literature on partner control dynamics and spousal violence (McClintock *et al*., 2022; Tolmie *et al*., 2024). These included woman's age (15–19, 20–24, 25–29, 30–34, 35–39, 40–49 years), education level (no education, primary, secondary, higher), household wealth quintile (poorest, poorer, middle, richer, richest), place of residence (urban, rural), and region of residence (Northern, Central, Southern). Cultural and social characteristics comprised religion (Catholic, Church of Central Africa Presbyterian, other Christian, Muslim, other/none) and ethnicity (Chewa, Lomwe, Tumbuka, Yao, Ngoni, other ethnicities). Partner characteristics included husband's education (none, primary, secondary, higher), husband's occupation (professional/managerial, clerical/service, skilled manual, unskilled manual, agricultural worker, not working), and husband's alcohol use (yes, no). Relational power dynamics were further captured using continuous measures of spousal age difference and spousal education difference.

Statistical analyses

The analysis proceeded in sequential stages to describe patterns of marital control, predictors of marital control intensity, and examine association between marital control and spousal violence. Survey-weighted descriptive statistics were used to estimate the prevalence of marital control behaviours. Bivariate analyses with Pearson chi-square test performed to present the patterns of marital control across background characteristics. In addition, same analyses also applied to

present prevalence of spousal violence by marital control using survey-adjusted cross-tabulations and design-based F tests.

Given the ordinal nature of the marital control variable, ordered logistic regression models were first estimated to examine factors associated with increasing levels of control. The proportional odds assumption underlying the ordered logit model was formally tested using multiple diagnostic procedures. Evidence of systematic violations of this assumption motivated the use of more flexible modelling approaches, and this can be expressed as:

$$\text{logit}[P(Y_i \leq j)] = \alpha_j - \beta X_i, j = 0,1,2$$

where $Y_i$is the marital control category, $X_i$is the vector of covariates, and $\beta$is assumed constant across thresholds. This formulation relies on the proportional odds (parallel-lines) assumption. The proportional odds assumption was evaluated using the Brant test, Wolfe–Gould test, score test, likelihood ratio test, and Wald test. All tests indicated significant violations ($p < 0.001$), suggesting that the effect of covariates varied across marital control thresholds. This justified the use of a more flexible model. To account for violations of the proportional odds assumption, generalized ordered logit models with partial proportional odds were estimated. This approach allows covariate effects to vary across thresholds of marital control while retaining proportionality for variables that satisfy the assumption. Model specification was guided by automated testing procedures to identify covariates requiring relaxation of proportional odds constraints:

$$\text{logit}[P(Y_i > j)] = \alpha_j + \beta_j X_i$$

where $\beta_j$varies across thresholds for covariates that violate proportionality. The autofit option was used to allow Stata to determine which covariates required relaxation of the proportional odds assumption.

Finally, to assess the association between marital control and spousal violence, separate survey-adjusted logistic regression models were estimated for emotional, physical, sexual, and any spousal violence. Marital control category was included as the main explanatory variable, with adjustment for demographic, socioeconomic, cultural, and partner-related covariates. Results are presented as adjusted odds ratios with 95% confidence intervals. The general specification was:

$$\text{logit}(P(\text{Spousal violence}_k = 1)) = \gamma_0 + \gamma_1 \text{MC}_i + \gamma_2 X_i$$

where, $\text{Spousal violence}_k$represents emotional, physical, sexual, or any spousal violence; $\text{MC}_i$is the marital control category; and $X_i$is the vector of covariates. Results are presented as adjusted odds ratios (AORs) with 95% confidence intervals.

Results

Background characteristics of the study population

Table 1 summarises the characteristics of 16,668 married women aged 15–49 drawn from the pooled Malawi DHS 2004–2016. About one in five women (20.5%) reported experiencing physical intimate partner violence. With respect to marital control, fewer than one-third of women were classified as having no controlling behaviours (28.8%), while 47.0% experienced moderate

to high levels of marital control. The age distribution was relatively even, with the largest proportion of women aged 20–24 years (24.5%), followed by those aged 25–29 years (22.5%). Educational attainment was generally low, with nearly two-thirds of women having primary education (63.9%) and only 1.3% attaining higher education. The sample was predominantly rural (83.4%), and almost half of respondents resided in the Southern region (46.1%). Chewa ethnicity constituted the largest ethnic group (34.4%), while religious affiliation was mainly Christian, particularly other Christian denominations (49.5%) and Catholic (20.7%). Nearly half of partners were engaged in agriculture (47.9%), and approximately one-third reported alcohol consumption (34.0%). Most partners had primary education (59.1%), while just under 3% attained higher education. The majority of couples had a spousal age difference of four years or less (98.7%), and in most unions, women were more educated than their partners (73.9%).

Table 1. Descriptive characteristics of married women aged 15–49, Malawi DHS 2004–2016

Variable	Category	N	%
Physical violence	No	13,248	79.48
	Yes	3,420	20.52
Marital control category	Safe (0)	4,793	28.76
	Low (1)	4,394	26.36
	Moderate (2)	3,874	23.23
	High (3+)	3,607	21.65
Woman's age group	15–19	1,398	8.39
	20–24	4,079	24.48
	25–29	3,753	22.52
	30–34	2,678	16.07
	35–39	2,082	12.49
	40–49	2,678	16.05
Woman's education level	No education	3,455	20.72
	Primary	10,649	63.87
	Secondary	2,347	14.08
	Higher	220	1.32
Household wealth quintile	Poorest	2,767	16.60
	Poorer	3,501	21.00
	Middle	3,533	21.19
	Richer	3,421	20.52
	Richest	3,446	20.69
Place of residence	Urban	2,770	16.62
	Rural	13,898	83.38
Region	Northern	2,073	12.44
	Central	6,910	41.46
	Southern	7,685	46.10
Ethnicity	Chewa	5,739	34.43
	Lomwe	2,895	17.37
	Tumbuka	1,551	9.30
	Yao	2,285	13.71
	Ngoni	1,931	11.58
	Other ethnic groups	2,267	13.60
Religion	Catholic	3,444	20.65
	CCAP	2,584	15.50
	Other Christian	8,255	49.52
	Muslim	2,223	13.33
	Other / None	166	1.00
Partner's occupation	Not working	459	2.75
	Professional/clerical	1,333	8.00

	Sales/services	2,882	17.29
	Agriculture	7,978	47.85
	Manual labour	3,741	22.44
	Other / Don't know	275	1.67
Partner drinks alcohol	No	10,996	65.98
	Yes	5,672	34.02
Partner's education level	No education	2,135	12.81
	Primary	9,848	59.09
	Secondary	4,204	25.22
	Higher	480	2.88
Spousal age difference	≤4 years	16,455	98.73
	5–9 years	115	0.69
	≥10 years	98	0.58
Spousal education difference	Same education	1,685	10.11
	Husband more educated	2,673	16.03
	Wife more educated	12,310	73.86

Note: All estimations are based on weighed sample

Prevalence of marital control behaviors

Among the marital control behaviours, surveillance (56.7%) and jealousy (47.5%) being the most commonly reported marital control forms. Almost one in each five women reported accusations of infidelity (17.9%). Limitations on friendships (13.9%) and family contact (13.6%) were less relatively less prevalent (Table 2). Although 28.8% of women reported no controlling behaviours (safe marital relationship), over two-thirds experienced low (26.4%), 23.2% as moderate, and 21.7% as high control (Fig. 2). This graded distribution reinforces the interpretation of marital control as a continuum of coercive practices and motivates subsequent analyses examining dose–response associations with intimate partner violence.

Table 2. Prevalence of individual marital control behaviours among women aged 15-49, DHS Malawi 2005-2016

Marital control behaviours	**n**	**%**	**95% CI**
Jealousy	7,912	47.51	46.40–48.63
Accusations of unfaithfulness	2,983	17.90	17.09–18.73
Restriction of friends	2,321	13.93	13.07–14.83
Family contact limitation	2,268	13.62	12.76–14.52
Surveillance	9,452	56.72	55.59–57.84

Note: All estimations are based on weighed sample

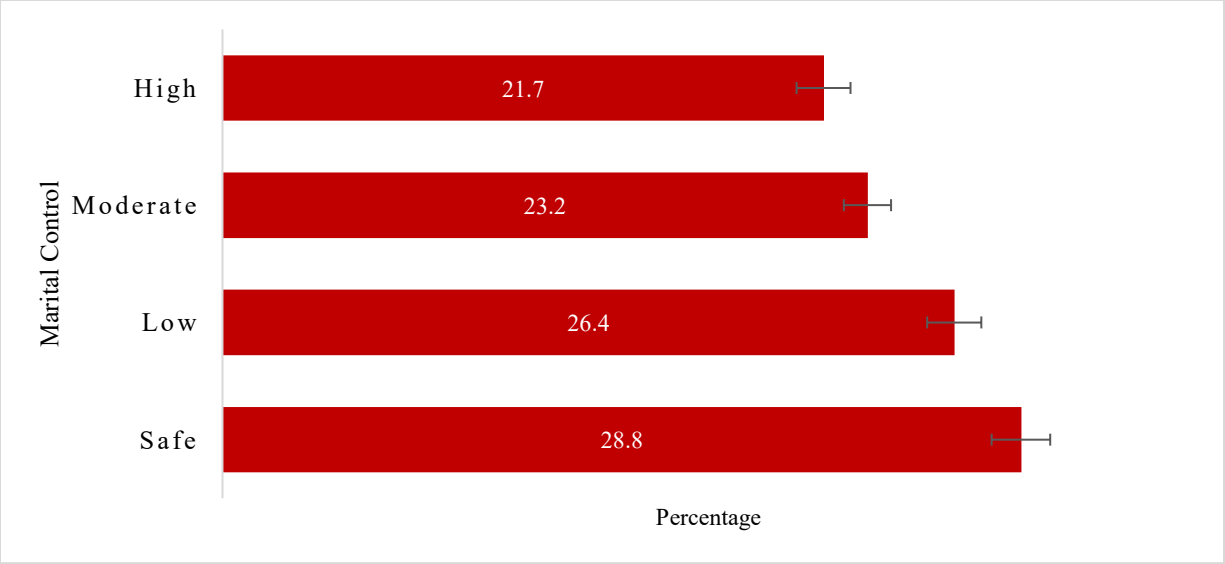


Fig. 2 Level of marital control experienced by women aged 15-49, DHS Malawi 2005-2016

Prevalence and predictors of marital control behaviour status

Table 3 presents survey-weighted percentages of women across safe, low, moderate, and high control levels by selected characteristics, with corresponding 95% confidence intervals and chi-square test results. The distribution of marital control categories by key sociodemographic and partner characteristics among women in Malawi. Overall, 28.8% of women reported experiencing no marital control (Safe), 26.4% reported low control, 23.2% moderate control, and 21.7% high control. Younger women (15-19 years) and those aged 25-29 years were slightly more likely to experience low or moderate marital control, whereas older women (40-49 years) reported higher proportions of safe marital relationships. Women from the poorest and richest wealth quintiles were more likely to report safe marital control compared to those in middle quintiles. Patterns also varied by religion and ethnicity: Muslim women reported the highest proportion of safe marital control (31%), while women in "Other/None" categories exhibited higher proportions of high control (30%). Partner characteristics were similarly associated with marital control. Women whose husbands were engaged in professional or clerical work reported higher proportions of safe relationships (32%) compared with women whose partners were in manual labor (28%). Alcohol consumption by partners was associated with higher exposure to high marital control (28% vs. 19% among non-drinkers). Age and education differences between partners were also relevant. Women older than their husbands or with higher education reported slightly lower proportions of high marital control.

Table 3. Percentage distribution of marital control across background characteristics among women aged 15-49, DHS Malawi 2005-2016

Covariate	Category	Safe % (95% CI)	Low % (95% CI)	Moderate % (95% CI)	High % (95% CI)
Age (years)	15–19	28.5 (25.8–31.3)	28.3 (25.5–31.3)	22.3 (19.8–25.1)	20.9 (18.4–23.7)
	20–24	29.0 (27.2–30.9)	26.1 (24.4–27.8)	23.1 (21.5–24.8)	21.8 (20.3–23.4)
	25–29	28.5 (26.7–30.5)	26.8 (24.9–28.8)	23.7 (22.0–25.4)	21.0 (19.4–22.7)

	30–34	26.8 (24.6–29.2)	26.2 (24.0–28.6)	24.0 (21.9–26.3)	22.9 (20.9–25.1)
	35–39	28.3 (25.7–31.1)	26.5 (23.8–29.4)	23.4 (21.0–26.0)	21.8 (19.4–24.3)
	40–49	31.1 (28.7–33.6)	25.2 (23.1–27.5)	22.3 (20.2–24.6)	21.4 (19.3–23.5)
Wealth quintile	Poorest	29.2 (27.0–31.5)	24.1 (22.3–26.1)	22.1 (20.2–24.2)	24.5 (22.5–26.6)
	Poorer	28.0 (26.1–30.0)	24.4 (22.7–26.2)	23.5 (21.8–25.3)	24.0 (22.2–25.9)
	Middle	29.6 (27.7–31.6)	26.6 (24.7–28.6)	23.0 (21.2–24.9)	20.8 (19.2–22.5)
	Richer	27.9 (26.0–29.9)	28.0 (26.0–30.0)	22.5 (21.0–24.2)	21.6 (19.8–23.6)
	Richest	29.1 (26.6–31.8)	28.3 (25.6–31.1)	24.8 (22.5–27.1)	17.8 (15.9–19.9)
Religion	Catholic	29.8 (27.6–32.1)	27.0 (25.0–29.3)	21.7 (19.9–23.7)	21.5 (19.6–23.5)
	Church of Central Africa, Presbyterian	28.7 (26.4–31.2)	26.4 (24.1–28.8)	23.2 (20.9–25.6)	21.7 (19.6–24.0)
	Other Christian	28.0 (26.6–29.4)	26.6 (25.3–27.9)	22.9 (21.8–24.0)	22.6 (21.3–23.9)
	Muslim	31.3 (28.8–33.9)	24.5 (22.2–26.8)	26.6 (24.1–29.2)	17.7 (15.9–19.7)
	Other/None	14.8 (9.0–23.4)	28.1 (18.6–39.9)	27.4 (18.7–38.1)	29.7 (20.7–40.7)
Ethnicity	Chewa	27.2 (25.4–29.0)	25.9 (24.3–27.5)	23.9 (22.4–25.5)	22.9 (21.4–24.6)
	Lomwe	28.9 (26.7–31.4)	28.9 (26.7–31.3)	21.5 (19.7–23.3)	20.6 (18.6–22.8)
	Tumbuka	28.2 (25.3–31.3)	25.3 (22.4–28.4)	24.1 (21.7–26.8)	22.3 (19.5–25.5)
	Yao	32.6 (30.0–35.4)	23.2 (20.9–25.5)	24.9 (22.5–27.5)	19.3 (17.3–21.4)
	Ngoni	29.7 (26.8–32.8)	25.4 (22.7–28.3)	22.6 (20.3–25.0)	22.3 (19.6–25.3)
	Other	27.3 (25.0–29.6)	29.2 (26.6–32.0)	22.2 (20.2–24.5)	21.3 (19.2–23.6)
Husband's occupation	Not working	36.5 (30.9–42.6)	22.4 (17.0–28.8)	20.6 (15.8–26.4)	20.5 (15.9–25.9)
	Professional/clerical	32.0 (28.4–35.9)	28.1 (24.4–32.2)	21.6 (18.7–24.8)	18.3 (15.5–21.4)
	Sales/services	28.1 (25.9–30.4)	25.5 (23.4–27.7)	23.9 (21.9–26.0)	22.6 (20.4–24.9)
	Agriculture	28.2 (26.8–29.6)	26.7 (25.1–28.0)	23.2 (22.0–24.4)	21.9 (20.6–23.3)
	Manual labor	27.8 (25.6–30.1)	26.3 (24.2–28.6)	24.3 (22.4–26.3)	21.6 (19.6–24.4)
	Other/Don't know	27.4 (21.4–34.3)	24.3 (18.4–31.5)	26.8 (20.5–34.2)	21.5 (16.1–28.0)
Husband drinks alcohol	No	31.6 (30.4–33.0)	27.1 (25.9–28.4)	22.7 (21.7–23.7)	18.6 (17.6–19.6)
	Yes	23.2 (21.7–24.8)	24.9 (23.4–26.4)	24.3 (22.8–25.9)	27.6 (25.9–29.4)
Age difference	≤4 years	28.8 (27.8–29.9)	26.4 (25.4–27.4)	23.3 (22.4–24.1)	21.5 (20.6–22.5)
	5–9 years	24.9 (15.4–37.8)	27.5 (17.9–39.6)	21.7 (14.0–32.1)	25.8 (17.4–36.5)
	≥10 years	28.7 (17.9–42.5)	18.9 (10.6–31.4)	18.0 (11.5–27.0)	34.4 (23.8–46.8)
Education difference	Same education	28.0 (25.3–30.9)	22.3 (20.1–24.8)	23.8 (21.4–26.4)	25.8 (23.1–28.8)
	Husband more educated	31.0 (28.7–33.4)	25.2 (23.2–27.3)	20.8 (19.0–22.8)	22.9 (20.9–25.2)
	Wife more educated	28.4 (27.2–29.6)	27.2 (26.1–28.3)	23.7 (22.7–24.8)	20.8 (19.8–21.9)

Note: All estimations are based on weighted sample

The generalized ordered logit model presents patterned associations between marital control intensity and background characteristics, with safe marital control as the reference category (Table 4). Women's age is associated with a slightly higher relative risk of being in low, moderate, or high marital control rather than safe control (RRR = 1.004, 95% CI: 1.000–1.008, $p < 0.05$). Women with secondary education show a higher relative risk of being in high control compared with safe control (RRR = 1.22, 95% CI: 1.00-1.48, p=0.05), while women with higher education face an even greater relative risk across non-safe control categories (RRR = 1.46, 95% CI: 1.00-2.14, $p < 0.05$). Household wealth is protective at lower levels of control: women from richer and richest households have a significantly lower relative risk of being in low control rather than safe control (RRR = 0.87–0.85, $p < 0.05$), while differences for moderate and high control are not statistically

significant. Geographic variation is evident, with residence in the Southern Region associated with a substantially higher relative risk of low, moderate, and high marital control compared with safe control (RRR = 1.27, 95% CI: 1.14-1.43, $p < 0.001$), whereas the Central Region shows no significant difference. Rural residence shows no significant effect. Ethnic and religious differences are observed: Ngoni women have a higher relative risk of non-safe marital control compared with Chewa women (RRR = 1.13, 95% CI: 1.02-1.25, $p < 0.05$), while Yao women are more likely to experience high control relative to safe control ($p < 0.05$). Muslim women exhibit a higher relative risk of high marital control compared with safe control (RRR = 1.23, 95% CI: 1.04-1.47, $p < 0.05$), whereas women reporting other or no religion show lower relative risks across non-safe categories. Partner characteristics are strongly associated with marital control: husbands' alcohol consumption substantially increases the relative risk of low, moderate, and high control relative to safe control (RRR = 1.55, 95% CI: 1.46-1.65, $p < 0.001$), while husbands' education is protective, with primary, secondary, and higher education associated with lower risks of non-safe marital control ($p \leq 0.001$).

Robustness Check: Multinomial Model

The multinomial logistic regression produced patterns consistent with the generalized ordered logit model (Supplementary Table S1). Higher education remained protective, with tertiary-educated women showing up to 2.4-fold higher relative risks of being in the safe category rather than high control. Regional and ethnic differences persisted, particularly among women in the Southern region and Yao ethnic group, who showed 37% and 25% higher relative risks, respectively, of being in safer categories. Husband's alcohol use again showed a strong pattern, with lower relative risks of being in the safe (49%) and low-control (37%) categories. Overall, the robustness check supported the stability of the observed associations.

Table 4. Relative Risk Ratios (RRRs) from Generalized Ordered Logit Models of Marital Control Intensity (Reference Category: Safe), DHS Malawi 2005-2016

Covariates	Low vs Safe RRR (95% CI)	Moderate vs Safe RRR (95% CI)	High vs Safe RRR (95% CI)
Woman's age (years)	1.004*** (1.000–1.008)	1.004*** (1.000–1.008)	1.004*** (1.000–1.008)
Woman's education (ref: No education)			
Primary	1.01 (0.91–1.11)	1.01 (0.91–1.11)	1.01 (0.91–1.11)
Secondary	1.07 (0.89–1.29)	1.04 (0.87–1.25)	1.22* (1.00–1.48)
Higher	1.46* (1.00–2.14)	1.46* (1.00–2.14)	1.46* (1.00–2.14)
Household wealth quintile (ref: Poorest)			
Poorer	0.98 (0.89–1.07)	0.98 (0.89–1.07)	0.98 (0.89–1.07)
Middle	1.03 (0.94–1.12)	1.03 (0.94–1.12)	1.03 (0.94–1.12)
Richer	0.87* (0.78–0.97)	0.95 (0.86–1.05)	1.03 (0.92–1.16)
Richest	0.85* (0.75–0.98)	0.91 (0.80–1.04)	1.04 (0.91–1.20)
Place of residence (ref: Urban)			
Rural	0.96 (0.87–1.06)	0.96 (0.87–1.06)	0.96 (0.87–1.06)
Region (ref: Northern)			
Central	0.99 (0.88–1.12)	0.99 (0.88–1.12)	0.99 (0.88–1.12)
Southern	1.27*** (1.14–1.43)	1.27*** (1.14–1.43)	1.27*** (1.14–1.43)
Ethnic group (ref: Chewa)			
Lomwe	0.89* (0.79–1.00)	0.97 (0.87–1.09)	0.91 (0.80–1.03)

Tumbuka	0.99 (0.86–1.13)	0.99 (0.86–1.13)	0.99 (0.86–1.13)
Yao	1.05 (0.90–1.23)	0.95 (0.82–1.10)	0.81* (0.68–0.96)
Ngoni	1.13** (1.02–1.25)	1.13** (1.02–1.25)	1.13** (1.02–1.25)
Other ethnicities	1.01 (0.91–1.13)	1.01 (0.91–1.13)	1.01 (0.91–1.13)
Religion (ref: Catholic)			
Church of Central Africa, Presbyterian	1.01 (0.92–1.12)	1.01 (0.92–1.12)	1.01 (0.92–1.12)
Other Christian	0.94 (0.87–1.02)	0.94 (0.87–1.02)	0.94 (0.87–1.02)
Muslim	0.82* (0.70–0.95)	0.86* (0.74–0.99)	1.23* (1.04–1.47)
Other / None	0.65** (0.47–0.89)	0.65** (0.47–0.89)	0.65** (0.47–0.89)
Husband drinks alcohol (ref: No)	0.64*** (0.61–0.68)	0.64*** (0.61–0.68)	0.64*** (0.61–0.68)
Husband's education (ref: No education)			
Primary	1.17** (1.07–1.28)	1.17** (1.07–1.28)	1.17** (1.07–1.28)
Secondary	1.23*** (1.10–1.38)	1.23*** (1.10–1.38)	1.23*** (1.10–1.38)
Higher	1.52*** (1.20–1.93)	1.52*** (1.20–1.93)	1.52*** (1.20–1.93)
Spousal age difference (years)	0.99** (0.99–1.00)	1.00 (0.99–1.00)	1.00 (1.00–1.01)
Spousal education difference	1.01 (0.99–1.02)	1.01 (0.99–1.02)	1.01 (0.99–1.02)

Note: *p≤0.050; **≤0.010; ***p≤0.001; All results are based on adjusted regression model where marital control considered as outcome and explanatory variable were age, education level, household wealth quintile, religion, ethnic groups, place of residence, region, husband occupation, husband drink alcohols as covariates.

Association between marital control and spousal violence

Bivariate association clearly shows that spousal violence prevalence increases steadily with each higher level of marital control (Table 5). Women in safe relationships report the lowest prevalence of emotional (6.4%), physical (9.3%), sexual (5.5%), and any spousal violence (15.7%). Prevalence rises among women experiencing low control and increases further under moderate control. The highest levels are observed among women in highly controlling relationships, where 40.9% report emotional violence, 38.0% physical violence, 29.1% sexual violence, and 58.6% report any spousal violence (Table 5).

Table 5 Bivariate association between marital control and spousal violence**,** among women aged 15-49, DHS Malawi 2005-2016

Control category	Emotional Violence (%, 95% CI)	Physical Violence (%, 95% CI)	Sexual Violence (%, 95% CI)	Any Spousal Violence (%, 95% CI)	Chi-square significance test
Safe	6.39 (5.56–7.33)	9.32 (8.29–10.46)	5.53 (4.75–6.43)	15.73 (14.46–17.09)	<0.001
Low control	12.79 (11.52–14.17)	15.14 (13.72–16.67)	11.28 (10.11–12.57)	27.51 (25.75–29.35)	<0.001
Moderate control	20.83 (19.05–22.73)	24.27 (22.48–26.16)	17.39 (15.85–19.04)	40.86 (38.74–43.02)	<0.001
High control	40.87 (38.50–43.28)	37.95 (35.86–40.08)	29.06 (27.12–31.08)	58.55 (56.21–60.85)	<0.001

Note: All estimations are based on weighted sample

After adjusting all selected covariates, the association between marital control and spousal violence found to be remain significant (Table 6). In particular, compared with women in safe relationships, low marital control is associated with higher odds of emotional violence (AOR = 2.10, $p < 0.001$), sexual violence (AOR = 2.14, $p < 0.001$), physical violence (AOR = 1.66, $p < 0.001$), and any spousal violence (AOR = 1.98, $p < 0.001$). These associations increase markedly for moderate control (emotional: AOR = 3.85; sexual: AOR = 3.58; physical: AOR = 3.15; any spousal violence: AOR = 3.75; all $p < 0.001$) and are strongest for high control (emotional: AOR = 10.14; sexual: AOR = 6.76; physical: AOR = 5.72; any spousal violence: AOR = 7.50; all $p < 0.001$).

Other significant predictors of spousal violence

Women's age shows limited associations, although those aged 25-29 and 30-34 have higher odds of emotional violence (AOR = 1.27, $p < 0.05$; AOR = 1.54, $p < 0.001$, respectively) and any spousal violence (AOR = 1.21, $p < 0.05$; AOR = 1.39, $p < 0.01$) (Table 6). Education is positively associated with spousal violence, with primary education increasing the odds of emotional (AOR = 1.76, $p < 0.001$), sexual (AOR = 1.57, $p < 0.001$), physical (AOR = 1.58, $p < 0.001$), and any spousal violence (AOR = 1.69, $p < 0.001$). Household wealth quintile shows positive associations with physical and any spousal violence among women in middle and richest households (AORs = 1.19–1.37, $p \leq 0.05$). Geographic variation is evident, with rural residence negatively associated with physical violence (AOR = 0.76, $p < 0.01$) but positively associated with sexual violence (AOR = 1.26, $p < 0.05$). Residence in the Central Region is positively associated with emotional violence (AOR = 1.75, $p < 0.001$) and any spousal violence (AOR = 1.47, $p < 0.01$), while residence in the Southern Region is negatively associated with sexual violence (AOR = 0.75, $p < 0.05$). Partner characteristics show strong effects: husbands' alcohol consumption is positively associated with emotional (AOR = 1.72), sexual (AOR = 1.57), physical (AOR = 2.07), and any spousal violence (AOR = 1.82), all $p < 0.001$. In contrast, husbands' employment in clerical, skilled, or unskilled manual occupations is negatively associated with emotional and any spousal violence (AORs = 0.52–0.71, $p \leq 0.05$).

Table 6. Multivariable logistic regression results of adjusted Association between marital control and spousal violence, among women aged 15-49, DHS Malawi 2005-2016

	Emotional violence AOR (95% CI)	Sexual violence AOR (95% CI)	Physical violence AOR (95% CI)	Any spousal violence AOR (95% CI)
Marital control category (Ref: safe)				
Low control	2.10 (1.73–2.56) ***	2.14 (1.75–2.61) ***	1.66 (1.40–1.98) ***	1.98 (1.73–2.27) ***
Moderate control	3.85 (3.17–4.66) ***	3.58 (2.95–4.34) ***	3.15 (2.67–3.72) ***	3.75 (3.27–4.31) ***
High control	10.14 (8.47–12.13) ***	6.76 (5.59–8.16) ***	5.72 (4.86–6.74) ***	7.50 (6.49–8.66) ***
Woman's age (ref: 15–19)				
20–24	1.01 (0.81–1.27)	0.94 (0.75–1.19)	1.12 (0.90–1.40)	1.11 (0.92–1.33)
25–29	1.27 (1.01–1.60) *	1.01 (0.79–1.28)	1.23 (0.97–1.56)	1.21 (1.00–1.46) *
30–34	1.54 (1.21–1.97) ***	1.11 (0.87–1.43)	1.19 (0.93–1.50)	1.39 (1.14–1.68) **
35–39	1.36 (1.04–1.77) *	1.00 (0.76–1.31)	1.06 (0.81–1.38)	1.08 (0.87–1.34)
40–49	1.48 (1.14–1.92) **	0.89 (0.68–1.16)	1.03 (0.79–1.33)	1.13 (0.91–1.40)
Woman's education (ref: No education)				
Primary	1.76 (1.42–2.19) ***	1.57 (1.27–1.94) ***	1.58 (1.29–1.94) ***	1.69 (1.44–1.99) ***
Secondary	1.87 (1.26–2.77) **	1.28 (0.86–1.92)	1.07 (0.74–1.55)	1.28 (0.95–1.74)
Higher	2.19 (0.91–5.23)	1.20 (0.43–3.29)	1.21 (0.36–4.05)	1.37 (0.55–3.42)
Household wealth (ref: Poorest)				

Poorer	1.00 (0.84–1.19)	0.93 (0.78–1.10)	1.22 (1.04–1.43) **	1.07 (0.92–1.23)
Middle	1.03 (0.85–1.24)	1.11 (0.93–1.33)	1.19 (1.01–1.40) *	1.17 (1.00–1.35) *
Richer	0.99 (0.82–1.19)	0.97 (0.80–1.18)	1.10 (0.92–1.31)	1.11 (0.95–1.30)
Richest	1.04 (0.82–1.32)	0.95 (0.73–1.23)	1.37 (1.10–1.70) **	1.23 (1.01–1.50) *
Religion (ref: Catholic)				
Church of Central Africa, Presbyterian	0.94 (0.77–1.14)	0.99 (0.81–1.22)	0.93 (0.77–1.11)	0.96 (0.82–1.13)
Other Christian	1.03 (0.88–1.19)	1.08 (0.91–1.27)	0.99 (0.86–1.14)	1.08 (0.95–1.23)
Muslim	0.86 (0.65–1.13)	0.91 (0.67–1.22)	0.81 (0.62–1.05)	0.89 (0.71–1.10)
Other/None	0.84 (0.48–1.49)	0.90 (0.52–1.57)	1.25 (0.73–2.14)	0.92 (0.56–1.50)
Ethnic group (ref: Chewa)				
Lomwe	0.74 (0.60–0.91) **	0.88 (0.71–1.09)	1.13 (0.94–1.37)	0.89 (0.75–1.05)
Tumbuka	1.14 (0.85–1.52)	1.10 (0.79–1.52)	1.37 (0.99–1.89) *	1.13 (0.87–1.48)
Yao	0.67 (0.51–0.88) **	0.85 (0.64–1.13)	1.03 (0.79–1.36)	0.82 (0.66–1.02)
Ngoni	0.96 (0.76–1.20)	0.87 (0.69–1.09)	1.13 (0.93–1.39)	1.02 (0.86–1.22)
Other ethnicities	0.91 (0.73–1.14)	1.01 (0.81–1.27)	1.24 (1.01–1.52) *	1.04 (0.86–1.25)
Place of residence (ref: Urban)				
Rural	0.96 (0.78–1.19)	1.26 (1.00–1.59) *	0.76 (0.61–0.94) **	0.88 (0.74–1.05)
Region (ref: Northern)				
Central	1.75 (1.33–2.30) ***	1.22 (0.92–1.62)	1.21 (0.93–1.57)	1.47 (1.16–1.86) **
Southern	1.46 (1.14–1.89) **	0.75 (0.57–0.98) *	1.19 (0.93–1.52)	1.10 (0.88–1.37)
Husband's education (ref: None)				
Primary	1.09 (0.92–1.28)	1.13 (0.93–1.38)	1.03 (0.87–1.23)	1.12 (0.97–1.29)
Secondary	0.98 (0.80–1.22)	1.06 (0.83–1.37)	1.00 (0.80–1.24)	1.00 (0.83–1.19)
Higher	0.62 (0.37–1.05)	0.73 (0.42–1.26)	0.86 (0.52–1.42)	0.71 (0.47–1.08)
Husband's occupation (ref: Professional/managerial)				
Clerical/service	0.62 (0.43–0.89) **	1.20 (0.75–1.89)	0.69 (0.46–1.02) *	0.71 (0.50–1.00) *
Skilled manual	0.52 (0.38–0.72) ***	1.04 (0.69–1.58)	0.69 (0.49–0.99) *	0.69 (0.51–0.94) **
Unskilled manual	0.58 (0.43–0.77) ***	1.14 (0.78–1.68)	0.70 (0.49–0.98) *	0.72 (0.54–0.96) *
Agricultural worker	0.73 (0.54–0.98) *	1.24 (0.78–1.84)	0.82 (0.57–1.16)	0.83 (0.62–1.12)
Not working	0.56 (0.33–0.95) *	1.15 (0.67–1.99)	0.85 (0.51–1.43)	0.87 (0.56–1.34)
Husband drinks alcohol (ref: No)				
Yes	1.72 (1.53–1.93) ***	1.57 (1.39–1.77) ***	2.07 (1.84–2.32) ***	1.82 (1.65–2.01) ***
Spousal age difference (continuous)	1.00 (0.99–1.01)	1.00 (0.99–1.01)	1.00 (0.99–1.01)	1.00 (0.99–1.01)
Spousal education difference (continuous)	0.98 (0.94–1.01)	1.00 (0.97–1.03)	0.97 (0.94–1.00) *	0.97 (0.95–1.00) *

Note: ref Reference Category CI Confidence Interval *p≤0.050; **≤0.010; ***p≤0.001; All results are based on adjusted multivariable regression model where spousal violence considered as outcome, level of marital control used as key explanatory variable including age, education level, household wealth quintile, religion, ethnic groups, place of residence, region, husband occupation, husband drink alcohols as covariates.

Discussion

Using nationally representative survey data from Malawi, this study examined the relationship between marital control and women's experiences of spousal violence. The results reveal a strong and systematic association between the intensity of marital control and all forms of spousal violence. Women exposed to low, moderate, and high levels of marital control faced progressively higher odds of emotional, sexual, and physical violence, as well as any spousal violence, compared

with women in relationships classified as safe. The magnitude of risk increased sharply with control intensity, particularly among women experiencing high marital control, indicating a clear dose–response relationship. This pattern supports conceptualisations of spousal violence that emphasise coercive control as a central organising feature of abusive relationships rather than a peripheral correlate of physical violence (Barlow and Walklate, 2022; McClintock *et al.*, 2022; Tolmie *et al.*, 2024).

Age-related differences in spousal violence were also evident. Women in their late twenties and early thirties were more likely to report emotional and overall spousal violence than adolescents, while associations weakened at older ages. This pattern is consistent with evidence from sub-Saharan Africa suggesting that IPV risk accumulates over time as relationships mature and power imbalances become normalised within marriage (Kebede *et al*., 2022; Tessema *et al.*, 2023; Wado *et al*., 2021). Women's education did not demonstrate a uniformly protective effect against spousal violence. While higher education was not consistently associated with reduced violence, women with primary education experienced significantly higher odds of emotional, sexual, physical, and any spousal violence compared with those with no education. Similar patterns have been reported elsewhere in the region, where partial gains in education may increase women's autonomy without corresponding shifts in gender norms or male attitudes, potentially heightening relationship tensions (Cislaghi and Heise, 2019; Nabaggala *et al*., 2021; Stöckl *et al*., 2021). Household wealth showed a complex relationship with spousal violence. Women in middle and wealthier households were more likely to experience physical and overall IPV than those in the poorest households, while wealth gradients were not consistently protective across all violence outcomes. This finding aligns with regional evidence indicating that economic resources alone do not shield women from violence, particularly in settings where men retain decision-making authority and control over household resources (Mossie *et al*., 2023; Sardinha *et al.*, 2022). Religious and ethnic differences were observed, although these associations were generally modest. Muslim women did not face significantly higher odds of spousal violence relative to Catholics across outcomes, while some ethnic groups, such as Lomwe and Yao, exhibited lower odds of emotional violence. These findings suggest that spousal violence in Malawi is less a function of religious affiliation itself than of broader social norms, gender relations, and community-level practices that shape the acceptability of control and violence within intimate relationships (Jewkes et al., 2015; Sikweyiya et al., 2020).

Spatial variations in spousal violence were evident across place of residence and region. Rural women were more likely to experience sexual violence but less likely to report physical violence, while women residing in the Central and Southern regions faced elevated risks of emotional and overall IPV compared with those in the Northern region. Such regional differences may reflect variation in gender norms, reporting behaviours, and access to services, as documented in other sub-Saharan African contexts (Mossie *et al.*, 2023; Nabaggala *et al.*, 2021).

Partner characteristics emerged as among the most consistent predictors of spousal violence. Husband's alcohol consumption was strongly associated with all forms of violence, substantially increasing women's odds of emotional, sexual, physical, and any spousal violence. This finding aligns with extensive evidence linking alcohol use to aggression and impaired self-regulation, thereby elevating the risk of spousal violence (Aboagye *et al*., 2022; Bourey *et al*., 2023). In contrast, higher levels of husband's education were associated with lower odds of IPV, consistent with studies showing that men's education may reduce violent behaviour through greater awareness of women's rights and reduced endorsement of violent norms (Kebede et al., 2022).

Results from the generalized ordered logit models further demonstrate that marital control itself is socially patterned. Higher levels of women's education were associated with increased likelihood of experiencing high marital control, while household wealth reduced the likelihood of low control but offered limited protection against high control. Muslim women were less likely to experience low and moderate control but more likely to experience high control, suggesting that extreme forms of control may be concentrated within specific relational contexts. Partner education was positively associated with all levels of marital control, highlighting the complexity of power dynamics within intimate relationships.

Limitation and strength of the study

This study draws on nationally representative survey data, allowing the findings to be generalised to women in intimate unions in Malawi. The analysis considers multiple forms of intimate partner violence, including emotional, sexual, and physical violence, providing a comprehensive assessment of women's experiences. The use of a graded measure of marital control makes it possible to examine differences in violence across varying levels of control, revealing a clear dose–response relationship. In addition, the application of multivariable regression and generalized ordered logit models enables adjustment for a wide range of individual, household, and partner characteristics.

At the same time, several limitations should be noted. The cross-sectional design restricts the ability to establish causal relationships between marital control and intimate partner violence. The reliance on self-reported data may result in under-reporting or reporting bias due to stigma, fear, or social desirability. The data also lack information on the timing, duration, and severity of controlling behaviours, which limits a more detailed understanding of how marital control evolves and intensifies within relationships.

Conclusion

The results demonstrate that marital control is a central feature of intimate partner violence in Malawi and is strongly associated with women's experiences of emotional, sexual, and physical violence. Women exposed to increasing levels of marital control consistently face higher risks of violence, regardless of their socio-demographic characteristics. The presence of a clear gradient between control intensity and spousal violence suggests that controlling behaviours are not isolated practices but form part of broader patterns of domination within intimate relationships. Substantial variation in spousal violence was observed across age groups, regions, and partner characteristics, indicating that the relationship between marital control and violence is shaped by wider social and relational contexts. The findings further show that socio-economic resources such as education and household wealth do not uniformly protect women from violence, highlighting the persistence of gendered power inequalities within marriage. Overall, the results suggest that efforts to address intimate partner violence in Malawi need to move beyond a narrow focus on physical or sexual abuse and give greater attention to the controlling behaviours that structure women's everyday experiences within intimate relationships.

Declaration

Authors contribution: Conceptualization: MR & RM; Data curation & Analyses: RM & SDK; Analyses: MR, RD & SDK; Writing: MR, RM & SDK; Review: MR, RM & SDK; Visualization & Validation: MR, RD & SDK

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Data availability

The dataset analyzed during the current study are available in the Demographic and Health Surveys (DHS) repository, https://dhsprogram.com/data/available-datasets.cfm.

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