

Factors Associated with the Time to First Intimate Partner Violence Experience Among Males In Uganda: A Cross-Sectional Study

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Received: 1st August 2024/ Revised: 6th November 2024/ Published: 30th December 2024

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ABSTRACT

The duration of the first occurrence of intimate partner violence within an intimate relationship varies from one victim to another due to several factors. However, few studies have explored the issue, especially among male victims and yet this is key to designing preventive mechanisms. Therefore this study sought to identify the factors associated with the timing to first experience of intimate partner violence by male victims. The study used secondary data from the 2016 Uganda Demographic and Health Survey. Data analysis was done using Pearson's chi-square test and multilevel ordered logistic regression model. The duration to first intimate partner violence for the highest proportion of males in Uganda was 0-2 years (51.9%). The younger a male was, the shorter the duration to their first intimate partner violence experience. Still, males who had resided in rural areas had a longer time to first intimate partner violence experience. There is a need to raise awareness alongside other interventions among the people, especially the youth and urban dwellers about IPV and the negative social, economic, physical, and psychological outcomes that are associated with it.

Keywords: Uganda, multilevel, intimate partner violence, regression.

1 Introduction

Intimate partner violence (IPV) is highly prevalent in Sub-Saharan Africa (SSA) affecting both males and females. The negative health outcomes of IPV include poor mental health (Leung *et al.*, 2005; Ali, Mogren, and Krantz, 2013), physical pain, walking difficulties, challenges in doing day-to-day chores (Ellsberg *et al.*, 2008) and reproductive health problems among others (Claudia García Moreno *et al.*, 2005; Leonardsson and San Sebastian, 2017).

However, fewer studies have been conducted in SSA countries compared to developed countries. Still, most of these studies in SSA have focused on women as the victims and men as the perpetrators (Tenkorang, 2021; Scott-Storey *et al.*, 2023). However, men also experience IPV with an estimated prevalence of 17 percent among males globally (Lanre *et al.*, 2014; Gubi and Wandera, 2022). In SSA, the prevalence of IPV against men varies from one country to another for example Nigeria (23.6%), Tanzania (34.8%), Kenya (36%), and Cameroon (22%) (Yusuf *et al.*, 2011; INS and ICF, 2018; Mulawa *et al.*, 2018; KNBS and ICF, 2023). In Uganda, 44% of men had experienced IPV from their current or recent partner (UBOS and ICF, 2018).

Although some studies have explored the risk factors for IPV in SSA, hardly any have researched the duration to the first IPV (FIPV) experience, especially among men. A study among women from Nigeria, Kenya, and Mozambique reported that the factors associated with the timing of first domestic violence included the woman's ethnicity, education level, employment status, religious affiliation, age at first marriage, region, place of residence, household wealth status, and her partner's education level and alcohol consumption (Fagbamigbe *et al.*, 2019). Therefore this study sought to identify the factors associated with the duration to FIPV among males in Uganda. This will contribute to the limited body of knowledge regarding the timing of FIPV among males in SSA. Still, this information can be useful when designing interventions that serve as prevention mechanisms, reducing the incidence of IPV and its numerous negative outcomes.

2 Methodology

2.1 Data Sources

The data used in this study was from the 2016 Uganda Demographic and Health Survey (UDHS). The sample was stratified and selected in two stages. Firstly, 697 enumeration areas (EAs) were selected from the 2014 Uganda National Population and Housing Census (NPHC) comprising 162 EAs in urban areas and 535 in rural areas (UBOS and ICF, 2018). In the second stage of sampling, households were selected. A listing of households was compiled in each of the accessible selected EAs from April to October 2016. EAs that had more than 300 households were segmented. One segment was then selected for the survey with probability proportional to segment size and it's within

these that household listing was conducted (UBOS and ICF, 2018). In total, a representative sample of 20,880 households (30 per EA or EA segment) was randomly selected. The sample of EAs was selected independently from each stratum using probability proportional to size (UBOS and ICF, 2018).

The survey had a domestic violence module administered in all sampled households. Only one eligible person per household was randomly selected for the module, and the module was not implemented if privacy could not be assured. In one-third of households, one man aged 15-54 years was randomly selected to receive the domestic violence module as part of his interview (UBOS and ICF, 2018). In total, 4,011 men aged 15-54 years (3,758 men aged 15-49 years) responded to the domestic violence questions. One percent of eligible men could not be successfully interviewed with the module because of lack of privacy or other reasons. Specially constructed weights were used to adjust for the selection of only one person per household and to ensure that the domestic violence subsample was nationally representative (UBOS and ICF, 2018). This study focused specifically, on the duration of time in years it took for males to experience IPV for the first time since they got married to their wives or started living together with their partner. This was measured by asking all males who had ever experienced IPV “How long after you first (got married/started living together) with your (last) (wife/partner) did (this/any of these things) first happen?” However, 2,478 men had missing information regarding their experience of any of the forms of violence reducing the sample to only 2,858 men. Still, 13 males were deleted because they had experienced violence before marriage or before living together. Additionally, 2146 males were further dropped because they had missing information regarding how long after they got married or started living together with their wife/partner that they experienced IPV. The final sample considered eligible for this study was 699 males.

2.2 Statistical analysis

Data was analyzed using STATA Version 14.2 at three stages. Firstly, a descriptive summary of all plausible independent factors associated with IPV was carried out. Secondly, using Pearson’s chi-square test (Eqn. 1), the association was tested between the plausible independent factors and a male’s duration to the first experience of IPV.

$$\chi^2 = \sum_{i=1} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \quad (1)$$

where O_{ij} is the number of individuals observed in the i^{th} row and j^{th} column cell, E_{ij} is the number of individuals expected in the i^{th} row, and j^{th} column cell. The column variable was designated as the outcome variable while the row variable was assigned as the independent variable.

The variables that were found to have a significant association ($p \leq 0.05$) with the duration to FIPV experience were considered for further analysis. Finally, given that the dependent variable was transformed into an ordinal outcome i.e. (“1=0 to 2 years”; “2=more than 2 years up to 5 years” and 3=“Above 5 years”). The link functions for the plausible models for multivariable analysis are the ordered logit and ordered probit. The corresponding multilevel models are the multilevel ordered logistic regression model (meologit), and the multilevel ordered probit regression model (meoprobit). The model equation (Eqn. 2) is the same for both i.e. for both, the log of the outcome is predicted with a linear combination of the covariates.

$$\frac{Pr(Y_{ik} \leq j)}{1 - Pr(Y_{ik} \leq j)} = \alpha_j + x_{ik}^T \beta + u_k, u_k \sim N(0, \sigma^2) \quad (2)$$

where x_{ik} a vector of covariates for the fixed effects, β are the regression coefficients, u_k are random intercepts for the random effects.

In total, five models were fitted under multivariate analysis for each link function. This included model 1 (empty model) which excludes any independent variables, model 2 (model 1 plus individual-level variables only), model 3 (model 1 plus contextual level variables only), model 4 (model 1 plus individual and contextual level variables) and the single-level (ordinary multiple regression ignoring the nesting in the data). The contextual independent variables included residence and region. The individual-level independent variables included age, marital status, education level, wealth index, employment status, religion, partner consumes alcohol, age at first cohabitation, number of control issues and ever-hurt partner.

Multilevel models were used given that the data collected was hierarchical with individuals nested within regions. Therefore, men within the same region were assumed to have more similar attributes compared to men in other regions. The 15 regions considered for this study include South Central, North Central, Kampala, Busoga, Bukedi, Bugisu, Teso, Karamoja, Lango, Acholi, West Nile, Bunyoro, Tooro, Kigezi & Ankole. Since ordinary regression models would not be able to account for the hierarchical nature of the data coupled with the possibility of underestimating standard errors corresponding to the regression coefficients, multilevel models were fitted (Babalola *et al.*, 2016). The Akaike Information Criteria (AIC) (Eqn. 3) was used to identify which of the plausible models best fits the data. The best-fit model was reported plus a summary of the results of the AIC test for all the possible multilevel models.

$$AIC = -2\ln L + 2p \quad (3)$$

where, $\ln L$ is the maximized log-likelihood of the model and k is the number of parameters estimated.

3 Results and Discussion

Table 1 provides a summary of the characteristics of the male respondents who were selected for this study. The duration to FIPV for the highest proportion of males in Uganda was 0-2 years (51.9%), followed by 3-5 years (27.3%), and lastly, above 5 years (20.7%). The highest proportion of males in the study was aged 36-45 years (26%), was currently married (54.9%), had attained at most primary level education (60.1%), and resided in rural areas (81%). Still, the highest proportion of males was in the poorer wealth index group (24.5%), were employed all year (61.2%), were Catholic (44.8%), and reported that their partners didn't consume alcohol (67.1%). The highest proportion of males fathered children with one partner (58.9%), had their first cohabitation aged 20-24 years (45.2%), reported that their partners had three control issues (29.9%), and had never hurt their partner when she was not hurting them (59.4%).

Table 2 summarizes the results of the relationship between the duration to FIPV and the plausible independent variables. Age, education level, and residence of the respondents were the only independent variables that had a significant ($p \leq 0.05$) relationship with the duration to FIPV. Males below 26 years (81.6%) had the highest proportion experiencing FIPV within 2 years of an intimate relationship while those above 45 years (44.4%) had the highest proportion experiencing FIPV after 5 years into an intimate relationship. Males with at most secondary education (63.8%) had the highest proportion experiencing FIPV within 2 years of an intimate relationship while those with at most primary education (24.1%) had the highest proportion experiencing FIPV after 5 years into an intimate relationship. Males residing in urban areas (65.4%) had the highest proportion experiencing FIPV within 2 years of an intimate relationship while those residing in rural areas (22.6%) had the highest proportion experiencing FIPV after 5 years into an intimate relationship.

Table 3 provides a summary of the results of the AIC for the plausible models. Model 4 (meologit with individual and contextual variables) had the lowest AIC (1300.81) compared to the other models, hence fitting the data better than the rest and its full results are presented in Table 4.

Table 4 presents the results of the multilevel-ordered logistic regression model. For males aged 26-30 years, the odds of experiencing FIPV after 5 years into an intimate relationship as opposed to 0-2 years or 3-5 years increased by 2.7 times compared to males below 26 years. Likewise, for males aged 31-35 years, the odds of experiencing FIPV after 5 years into an intimate relationship as opposed to 0-2 years or 3-5 years increased by 4.8 times compared to males below 26 years. Still, for males aged 36-45 years, the odds of experiencing FIPV after 5 years into an intimate relationship as opposed to 0-2 years or 3-5 years increased by 8.1 times compared to males below 26

Table 1: Characteristics of Male Respondents

Variables	Freq.	Percent	Variables	Freq.	Percent
Duration to FIPV			Employment		
0-2 years	363	51.9	All year	428	61.2
3-5 years	191	27.3	Seasonal	213	30.5
Above 5 years	145	20.7	Occasional	46	6.6
Age			None	12	1.7
Below 26 years	114	16.3	Religion		
26-30 years	149	21.3	Anglican	223	31.9
31-35 years	139	19.9	Catholic	313	44.8
36-45 years	182	26.0	Muslim	81	11.6
Above 45 years	115	16.5	Pentecostal	65	9.3
Marital status			Others	17	2.4
Married	384	54.9	Partner consumes alcohol		
Cohabiting	222	31.8	No	469	67.1
Widowed	2	0.3	Yes	230	32.9
Divorced/ Separated	91	13.0	Partner Fertility Status		
Education level			Single partner fertility	412	58.9
No education	44	6.3	Multiple partner fertility	287	41.1
Primary	420	60.1	Age at first cohabitation		
Secondary	152	21.8	Below 20 years	205	29.3
Higher	83	11.9	20-24 years	316	45.2
Residence			25+ years	178	25.5
Urban	133	19.0	Number of control issues		
Rural	566	81.0	None	66	9.44
Wealth index			One	94	13.45
Poorest	139	19.9	Two	157	22.46
Poorer	171	24.5	Three	209	29.9
Middle	145	20.7	Above three	173	24.75
Richer	133	19.0	Ever hurt partner		
Richest	111	15.9	No	415	59.4
			Yes	284	40.6

years. Lastly, for males above 45 years, the odds of experiencing FIPV after 5 years into an intimate relationship as opposed to 0-2 years or 3-5 years increased by 16.4 times compared to males below 26 years. Generally, the older a male was, the longer the time it would take them to experience their first IPV from their wife or partner. For males who resided in rural areas, the odds of experiencing FIPV after 5 years into an intimate relationship as opposed to 0-2 years or 3-5 years increased by 1.8 times compared to males who resided in urban areas.

3.1 Discussion

The study aimed to identify factors associated with the timing of first intimate partner violence against males in Uganda. The significance of age is consistent with findings by (Fagbamigbe *et al.*, 2019) in a study among women which

Table 2: Association between duration to FIPV and independent variables

Variables	0-2 years	3-5 years	Above 5 years	Total	p-value
Age					
Below 26 years	81.6	14.0	4.4	114	0.000
26-30 years	65.8	24.8	9.4	149	
31-35 years	52.5	29.5	18.0	139	
36-45 years	39.0	33.5	27.5	182	
Above 45 years	24.4	31.3	44.4	115	
Marital status					
Married	46.9	29.7	23.4	384	0.100
Cohabiting	59.5	24.3	16.2	222	
Widowed	50.0	50.0	0.0	2	
Divorced/separated	55.0	24.2	20.9	91	
Education level					
No education	52.3	29.6	18.2	44	0.015
Primary	46.4	29.5	24.1	420	
Secondary	63.8	21.1	15.1	152	
Higher	57.8	26.5	15.7	83	
Residence					
Urban	65.4	21.8	12.8	133	0.002
Rural	48.8	28.6	22.6	566	
Wealth index					
Poorest	51.1	31.7	17.3	139	0.267
Poorer	55.6	23.4	21.1	171	
Middle	45.5	28.3	26.2	145	
Richer	48.9	28.6	22.6	133	
Richest	59.5	25.2	15.3	111	
Employment					
All year	52.6	25.7	21.7	428	0.432
Seasonal	51.6	31.0	17.4	213	
Occasional	50.0	21.7	28.3	46	
None	41.7	41.7	16.7	12	
Religion					
Anglican	48.4	28.7	22.9	223	0.276
Catholic	51.8	27.8	20.5	313	
Muslim	55.6	32.1	12.4	81	
Pentecostal	56.9	16.9	26.2	65	
Others	64.7	17.7	17.7	17	
Partner consumes alcohol					
No	54.4	25.4	20.3	469	0.151
Yes	47.0	31.3	21.7	230	
MPF					
Single partner fertility	52.9	26.7	20.4	412	0.822
Multiple partner fertility	50.5	28.2	21.3	287	
Age at first cohabitation					
Under 20 years	51.7	25.9	22.4	205	0.903
20-24 years	51.0	28.5	20.6	316	
25+ years	53.9	27.0	19.1	178	
Number of control issues					
None	50.0	21.2	28.8	66	0.123
One	46.8	28.7	24.5	94	
Two	55.4	21.7	22.9	157	
Three	49.3	30.1	20.6	209	
Above three	55.5	30.6	13.9	173	
Ever hurt partner					
No	54.0	25.8	20.2	415	0.399
Yes	48.9	29.6	21.5	284	

Table 3: Comparison of plausible mixed-effects models

Model	Variance	AIC	LR Test	
oprobit				
Model 1	0.03	1429.02	p=0.0176	Empty/null model
Model 2	0.02	1419.34	p=0.0364	Contextual variable model
Model 3	0.02	1307.12	p=0.0600	Individual variable model
Model 4	0.02	1301.75	p=0.0708	Individual and contextual variable model
Single-level		1301.91		
ologit				
Model 1	0.08	1428.78	p=0.0153	Empty/null model
Model 2	0.06	1419.11	p=0.0336	Contextual variable model
Model 3	0.06	1306.10	p=0.0501	Individual variable model
Model 4	0.06	1300.81	p=0.0505	Individual and contextual variable model
Single-level		1301.50		

Table 4: Multilevel ordered logistic regression model for duration to FIPV

Variables	AOR	Std. Err.	z	P> z	[95	%CI]
Age						
Below 26 years (ref.)	1.0					
26-30 years	2.7	0.8	3.3	0.0	1.5	4.9
31-35 years	4.8	1.4	5.2	0.0	2.6	8.6
36-45 years	8.1	2.3	7.3	0.0	4.6	14.2
Above 45 years	16.4	5.1	9.0	0.0	8.9	30.0
Education level						
No education (ref.)	1.0					
Primary	1.9	0.6	1.9	0.1	1.0	3.5
Secondary	1.0	0.3	-0.1	0.9	0.5	1.9
Higher	1.3	0.5	0.6	0.5	0.6	2.7
Residence						
Urban (ref.)	1.0					
Rural	1.8	0.4	2.7	0.0	1.2	2.8

reported an increased risk of earlier occurrence of forced sexual acts among younger women compared to older women in Kenya, Zimbabwe, and Cote d'Ivoire. Likewise, in this study, the timing of the first IPV incidence was shorter among males in lower age brackets and the duration increased with an increase in the age bracket. This could be attributed to economic hardships which have driven young people to engage in excessive use of alcohol, drugs, and other substances as a way of coping for failure to provide for their families. This increases the likelihood of engaging in violent behaviors and some cases, the males end up being severely battered by their wives since they are not mentally stable leaving them vulnerable (McCloskey *et al.*, 2016). According to the UDHS 2016 report, young males had a high average number of sex partners in their lifetime ranging from 4.8 among those aged 15-24 years to 7.3 among those aged 25-29 years (UBOS and ICF, 2018) which could also increase the likelihood of IPV once a males' wife/partner becomes aware of or suspects an extramarital affair is taking (Caldwell *et al.*, 2010; Adebayo, 2014). The increased likelihood of earlier FIPV among urban males could be attributed to higher male dominance among males in rural areas compared to those in urban areas stemming from the strong adherence to social and cultural norms putting women at a higher risk of experiencing IPV compared to males and also fear of retaliating due to possible community sanctions (Lilleston *et al.*, 2017; Chadambuka and Ajwang', 2019).

4 Conclusion

This study sought to investigate the factors associated with the duration to first IPV experience among males in Uganda. Based on the study findings, the younger a male was, the shorter the duration to their first IPV experience. Still, males who resided in urban areas had a shorter duration to first IPV experience compared to males in rural areas. There is a need to raise awareness alongside other interventions among the people, especially the youth and urban dwellers about IPV and the negative social, economic, physical, and psychological outcomes that are associated with it.

5 Limitations

The researcher desired to include the Cox proportional hazard model since the time to first IPV follows the fundamental principle of survival analysis. However, the data on the timing of the first event after marriage or cohabitation was missing for some males who reported to have experienced IPV. Given that there was no information as to when all the males started the relationships in which they experienced or didn't experience IPV, there was no basis for computing the time beyond which they survived experiencing IPV which would also have helped in censoring. Therefore, the researcher opted to convert the dependent variable into an ordinal outcome and focus on methods

that could study ordinal outcomes.

Acknowledgement

We thank ICF for granting the researchers access and permission to use the Uganda Demographic and Health survey data of 2016 through the DHS program.

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