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Full Title: Lifetime Intimate Partner Violence (IPV) Against Mozambican Women: Individual and Contextual Level Factors Driving Its Prevalence

Short Title: Lifetime Intimate Partner Violence (IPV) Among Mozambican Women

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24 **Abstract**

25 **Background:** Intimate partner violence (IPV) remains a significant public health issue in
26 Mozambique. This study uses data from the 2022-2023 Mozambique Demographic and Health
27 Survey (DHS) to examine the prevalence and sociodemographic determinants of Lifetime IPV
28 among women.

29 **Methods:** A nationally representative sample of 4,813 women aged 15-49 was analyzed to assess
30 the prevalence of Lifetime IPV. Logistic regression models were used to identify individual- and
31 contextual-level factors associated with Lifetime IPV.

32 **Results:** Nearly 1 in 4 women (23.07%) reported experiencing physical abuse from a current or
33 former partner in their lifetime. Marital status emerged as a key individual-level determinant, with
34 married, cohabitating, and separated women being at significantly higher odds of experiencing
35 IPV compared to women who had never been in a union. Educational attainment and current
36 employment were also associated with increased odds of IPV. Similarly, women who justified
37 physical abuse had higher odds of experiencing IPV. Additionally, husbands/partners' alcohol
38 consumption was one of the strongest predictors, nearly tripling the odds of Lifetime IPV. Finally,
39 the effect modification between marital status and education showed that the intersection of these
40 factors further shaped IPV risk. At the contextual level, provincial disparities were observed, with
41 Cabo Delgado and Manica showing the highest IPV prevalence, while Inhambane and Gaza had
42 the lowest.

43 **Conclusion:** This study provides updated data on the prevalence of Lifetime IPV in Mozambique
44 and highlights key individual and contextual factors contributing to IPV. The findings underscore
45 the need for targeted interventions addressing socio-cultural norms, improving educational

46 opportunities, mitigating alcohol consumption, and implementing province-specific strategies to
47 reduce IPV and enhance women's safety across Mozambique.

48 **Background**

49 Intimate Partner Violence (IPV) remains a major public health, social and moral issue
50 affecting women worldwide. Addressing IPV is therefore key to achieving Sustainable
51 Development Goals (SDGs) on gender equity (SDG 5), quality education (SDG 4), and health and
52 wellbeing (SDG 3). According to the World Health Organization (WHO), nearly 27% of women
53 aged 15 to 49 who have ever been in a relationship report having experienced physical and/or
54 sexual violence by their intimate partner.(1) Physical violence perpetrated by a partner leads to
55 multiple adverse health outcomes in women, for example, injuries, trauma, mental health effects,
56 chronic conditions, and, among pregnant women, pregnancy complications like miscarriages and
57 pre-term births.(1–3) Although IPV is prevalent across all societies and cultures, reportedly, it is
58 highest within Latin America (31%), South-East Asia (33%), and Sub-Saharan Africa (SSA)
59 (33%).(1,4)

60 In Sub-Saharan Africa, IPV prevalence differs by geographic location, likely due to
61 variations in socio-cultural beliefs, gender norms, and economic inequality. For instance, a multi-
62 country study in SSA showed that 50% of women in Ethiopia reported having experienced IPV in
63 their lifetime, while only 17% of women in Namibia had ever experienced IPV.(5,6) Another
64 pooled analysis of 26 African countries found that while 14% of pregnant women in South Africa
65 having experienced physical violence during pregnancy, only 2.1% of those in Burkina Faso
66 reported experiencing the same.(7) Ahinkorah et al., (2023) and colleagues determined that Gabon
67 had the highest prevalence of IPV against women (45.3%), while Comoros had the lowest

68 prevalence (4.9%) in their study of 84,486 women across 18 countries.(3) It is clear, given these
69 reported data from across numerous countries, that understanding and addressing the specific
70 socio-cultural, economic and gendered factors driving IPV at individual and contextual levels is
71 essential for creating safer societies for women across Africa.(4,8)

72 African cultural traditions and gender norms widely reinforce men's dominance as
73 breadwinners and decision-makers in intimate partner relationships, making women more
74 vulnerable to unjust treatment.(9,10) These norms intersect and interact with individual
75 characteristics such as marital status, education, employment, attitudes towards abuse, and
76 substance use; this shapes women's susceptibility to, or protection from, IPV. The prevailing
77 literature demonstrates that cohabitating/married women have a higher likelihood of experiencing
78 IPV than their single counterparts. Cruz et al., (2014) revealed that cohabitating/married women
79 had 1.53 times higher odds of experiencing physical violence compared to single women (OR =
80 2.53, 95% CI = 1.22, 4.74).(6) Ahinkorah and colleagues, in a notable finding, reported that
81 cohabitating women are more likely to experience IPV than married women; possibly because
82 women often may compromise more once they are married or feel that they have fewer options,
83 resulting in less conflict with their husbands.(3)

84 Evidence also suggests that a woman's higher level of education and employment, both
85 general markers of women empowerment, can either reduce susceptibility to or trigger IPV,
86 depending on the context.(11,12) On one hand, some studies show that higher education level and
87 employment reduce the odds of IPV by increasing social networks and support, sources of
88 information, leading to greater autonomy and better bargaining power in relationships.(3,4,8,13)
89 For example, a study analyzing IPV among women across 16 Indian states determined that women
90 with a higher than secondary education were 59% less likely to experience IPV compared to

91 women with no formal education (OR = 0.41, 95% CI = 0.36, 0.46).(13) In contrast, in
92 communities with rigid gender roles and acceptable views of and relaxed attitudes about physical
93 violence, women's higher education and employment increase their risk of experiencing IPV.(8)
94 Cools and Kotsadam revealed that African women who achieved either a primary or a secondary
95 education were significantly more likely to experience IPV, compared to those without formal
96 education, the likelihood rising by 5.3 and 3.1 percentage points, respectively. . . Ahinkorah and
97 colleagues (2018) showed that employed women had 33% higher odds of experiencing physical
98 violence from their husbands/partners (OR = 1.33, 95% CI = 1.28, 1.37) compared to non-
99 employed women.(4,7)

100 Researchers have hypothesized that women's empowerment and IPV occur because
101 empowered women challenge traditional, unfavourable (to women) gender roles, including
102 questioning male authority.(8,14) Additionally, women's attitudes towards IPV shape their
103 vulnerability to experiencing it.(15) A population-based survey showed that IPV justification
104 trends align with global IPV prevalence, with higher justification rates in South and Southeast Asia
105 (47%) and Sub-Saharan Africa (38%) compared to Central and West Asia and Europe
106 (29%).(15,16) Another study of African countries showed that pregnant women who justified IPV
107 had a higher likelihood of experiencing physical violence than those who did not.(7) Scientists
108 argue that in societies where women justify IPV, they are less likely to oppose it or to report it,
109 thus increasing its occurrence.(17) Furthermore, alcohol use and abuse by women's
110 husbands/partners are consistently linked to higher rates of IPV.(18) Alcohol consumption can
111 lower inhibitions, impair functioning, and heighten depressive symptoms, all of which may
112 increase the likelihood of violence against women.(7)

113 At the contextual level, access to resource and wealth (as measured by wealth index), and
114 rural/urban living have been reported to influence IPV trends. The Wealth Index is an aggregate
115 score that measures the relative wealth of household's wealth and may serve as a proxy for
116 socioeconomic status.(3,19) Generally, women in the poorest wealth status are more likely to
117 experience IPV than those in the richest category.(3,8) Stockl et al. showed that there is a
118 significant decrease in the odds of experiencing IPV in richer households, compared to those in
119 the middle and poorest tertile of the wealth measurement.(8) A strong supporting argument is that
120 women within the richest wealth group are more resourced to fight for their rights and seek help
121 against physical abuse compared to those of the poorest index.(7) Another argument is that
122 financial stress is likely to be lesser reason for conflict in these well-endowed households.(3,8)
123 There is mixed evidence concerning the influence of rural/urban living and IPV prevalence. Some
124 studies show that rural living increases the odds of IPV due to rigid gender norms,(6) while others
125 suggest that living in rural settings decreases IPV risk since women in these settings maybe more
126 subservient, thus reducing any resistance to their husbands/partners dominance and
127 aggression(7,17,20)

128 Mozambique, a southeastern African country, has historically had one of the continent's
129 highest IPV prevalence; the 2011 DHS report indicated that 33% of women had experienced
130 physical violence since age 15.(17) Nevertheless, research suggests that this statistic is lower than
131 the actual estimate due to underreporting, since IPV is often seen as a private issue, discouraging
132 women from reporting violence and seeking support.(6,17,20) For instance, a 2011 study
133 conducted in Zambezia, a central province in Mozambique, portrayed that 70% of participants
134 admitted they never sought help or disclosed incidents of violence against them.(17,21) Despite
135 historical reports, current data on IPV and its structural and sociodemographic drivers are largely

136 unknown in Mozambique. This data gap makes it challenging to develop and implement effective
137 policies and protocols to ensure the welfare and safety of women across the country. Nationally,
138 the Mozambique Constitution establishes gender equality in all areas of society and prohibits all
139 legislative, political, cultural, economic, and social discrimination. Many state bodies tasked with
140 preventing and ending gender-based violence exists. However, lack of reliable and country-wide
141 contemporary data hampers evidence-based action on this front. This present study, therefore,
142 sought to address this evidence gap by utilizing the most recent Mozambique DHS data (2022-
143 2023) to investigate the Lifetime IPV prevalence and its associated sociodemographic and
144 structural factors among 15- to 49-year-old women in Mozambique.

145 **Methods**

146 **Data Source**

147 The present study analyzes information from a secondary data source, the 2022-2023
148 Mozambique DHS data.(19) The DHS, funded by the United States Agency for International
149 Development (USAID), is a global survey that is conducted in over 85 low- and middle-income
150 countries. We received approval from the DHS program to access de-identified datasets for the
151 2022-2023 Mozambique reports, which were provided on June 17, 2024. Thus, participant
152 confidentiality was maintained throughout our analyses, and no information can be directly linked
153 to any individual.

154 The 2022-23 Mozambique DHS was a nationwide, population-based cross-sectional survey
155 that covered all 10 provinces (Niassa, Cabo Delgado, Nampula, Zambezia, Tete, Manica, Sofala,
156 Inhambane, Gaza, and Maputo) as well as the capital city region of Maputo, which holds provincial
157 status. Data collection followed a two-stage stratified sampling design. In the first stage, clusters
158 (enumeration areas, EAs) were selected based on “IV Recenseamento Geral da População e

159 Habitação 2017” (IV RGPH 2017)).(22) A total of 619 recorded areas were chosen using
160 probability-proportional-to-size, determined by the number of households in each explicit stratum.
161 In the second stage, 26 households were systematically selected equally from each area. This
162 process resulted in the selection of 16,045 households for data collection. All women aged 15–49
163 years who were either residents or visitors in the household the night before the interviews were
164 eligible to participate. In a subsample of half of the selected households, all men aged 15–54 years
165 were also eligible for interviews.(19) For our analyses, we utilized data from a sub-group of
166 women within the Individual Women Recode (IR) file who were randomly selected to complete
167 the Domestic Violence module (N=4,813).

168 **Variables**

169 **Outcome Variable:** We define the outcome variable, Lifetime Intimate Partner Violence (IPV),
170 as any physical violence experienced by women from a current or former partner since the age of
171 15. This variable was derived from multiple questions according to the guidelines within the DHS-
172 8 Guide to Statistics Manual.(23) A “Yes” response to any of the following questions met the
173 criteria for Lifetime IPV: (a) Ever been pushed, shook or had something thrown by
174 husband/partner; (b) Ever been slapped by husband/partner (c) Ever been punched with fist or hit
175 by something harmful by husband/partner (d) Ever been kicked or dragged by husband/partner (e)
176 Ever been strangled or burnt by husband/partner (f) Ever been attacked with knife/gun or other
177 weapon by husband/partner (g) Ever CS physical violence by husband/partner (h) Ever had arm
178 twisted or hair pulled by husband/partner (i) Previous husband: ever hit, slap, kick or physically
179 hurt respondent. The outcome variable was dichotomized (“Yes”/ “No”) for all analyses.

180 **Independent Variables:** Seminal articles on IPV in Sub-Saharan Africa, like that of Ahinkorah
181 et al., (2023) (7) as well as the adapted theoretical framework from Azevêdo et al (24) (**S1 Fig**),

182 guided the selection of the independent variables. These variables were divided into Individual-
183 level and Contextual-level factors. The Individual-level factors include (a) Maternal Age (b)
184 Husband/Partner's Age (c) Maternal Educational Level (d) Husband/Partner's Educational Level
185 (e) Woman's Marital Status (f) Woman's Current Employment Status (g) Woman's Access to
186 Media (h) Woman's Justification for Beatings and (i) Husband/Partner's Alcohol Intake.
187 Contextual-level variables, but applied at individual level, comprised of (a) Wealth Index (b) Type
188 of Place of Residence, and (c) Province of Residence. The supplemental material contains all the
189 details of these variables, including their categorizations (**S2 Table**).

190 **Data Analysis:** Study population characteristics were summarized as counts and frequencies for
191 all independent variables and presented in Table 1. Lifetime IPV (**Fig 1**) as well as IPV
192 experienced within the last 12 months (**S3 Fig**) were also quantified as counts and frequencies and
193 presented as figures. Additionally, binary logistic regression analysis was used to assess the
194 association between Lifetime IPV and each independent variable, estimating the unadjusted odds
195 ratios (OR) with their 95% confidence intervals (CI) (**S4 Table**). All variables with a bivariate
196 association at $p\text{-value} \leq 0.20$ were included in the multivariable logistic regression model in a
197 stepwise process to achieve the most parsimonious final model. Selected (based on theoretical
198 framework) variables were also tested for effect modifications. Finally, the Hosmer-Lemeshow
199 test was used to determine the model's goodness-of-fit. Because of smaller cell counts within the
200 highest 2 categories of the variables: "Husband/Partner's Age" and "Husband/Partner's
201 Educational Level", these categories were merged to ensure sufficient sample in both the bivariate
202 and multivariate analyses. All adjusted odds ratios, their 95% CIs, and corresponding p-values are
203 reported in Table 2. The analyses were performed using SAS 9.4M8.

204 **Results**

205 Sample Characteristics

206 Table 1 summarizes the background characteristics of the study population. The study
 207 population consisted of 4,813 women in Mozambique, with the largest proportion being between
 208 the ages of 15 and 24 (38.42%). In contrast, the majority of their husbands/partners were in the 25
 209 to 34 age range (34.40%). Regarding marital status, most participants were either living with a
 210 partner (43.24%) or were married (25.74%). Educationally, the largest proportion of women
 211 (42.84%), and their husbands/partners (39.34%), had completed primary education, while only
 212 3.26% and 4.01% had attained an education higher than secondary level, respectively. Concerning
 213 employment status, 63.89% of the women were unemployed at the time of the survey. Media
 214 access reported was limited, with more than half of the women reporting less than once-weekly
 215 access (59.67%). In terms of stating IPV was justified, the vast majority of women did not justify
 216 violence (82.86%). About one-third of the women stated that their husbands/partners (33.14%)
 217 consumed alcohol. Rural living was prevalent among the participants, with 60.07% residing in
 218 rural areas. The wealth distribution showed an even spread, with 16.12% in the poorest category
 219 and 25.74% in the richest category. Of the participants, 10.89% resided in Cabo Delgado, 11.47%
 220 in Nampula, and 9.12% in Niassa province.

221 **Table 1. Background Information on Study Population (N=4,813). Demographic and Health**
 222 **Survey, 2022-2023, Mozambique**

Variable	Frequency (N)	Frequency (%)
Woman's Age (N=4813)		
15 – 24	1849	38.42
25 – 34	1501	31.19
35 – 44	1077	22.38
≥ 45	386	8.02
Husband/Partner's Age (N=3320)		
15 – 24	442	13.31
25 – 34	1142	34.40

35 – 44	955	28.77
≥ 45	781	23.52
Woman’s Marital Status (N=4813)		
Never in Union	821	17.06
Married	1239	25.74
Living with a Partner	2081	43.24
No longer living together/separated	672	13.96
Woman’s Educational Level (N=4813)		
No Formal Education	1223	25.41
Primary	2062	42.84
Secondary	1371	28.49
Higher	157	3.26
Husband/Partner’s Educational Level (N=3320)		
No Formal Education	1025	30.87
Primary	1306	39.34
Secondary	856	25.78
Higher	133	4.01
Woman’s Current Employment Status (N=4813)		
No	3075	63.89
Yes	1738	36.11
Woman’s Access to Media (N=4813)		
Less than Once a Week	2872	59.67
At Least Once a Week	1941	40.33
Woman’s Justification for Beating from Husband/Partner (N=4813)		
No justification	3988	82.86
Moderate Justification	473	9.83
Moderate-to-complete Justification	352	7.31
Husband/Partner’s Alcohol Consumption (N=4454)		
No	2978	66.86
Yes	1476	33.14
Wealth Index (N=4813)		
Poorest	776	16.12
Poorer	761	15.81
Middle	948	19.70
Richer	1089	22.63
Richest	1239	25.74

Type of Place of Residence (N=4813)		
Rural	2891	60.07
Urban	1922	39.93
Province of Residence (N=4813)		
Niassa	439	9.12
Cabo Delgado	524	10.89
Nampula	552	11.47
Zambézia	376	7.81
Tete	469	9.74
Manica	405	8.41
Sofala	447	9.29
Inhambane	353	7.33
Gaza	413	8.58
Maputo	438	9.10
Cidade de Maputo	397	8.25

223 *Some variables have missing data points, so each frequency is a proportion of the available data points for that
 224 question.

225 ^aWealth Index: Composite score derived from participants' household assets using principal component analysis

226

227 **Prevalence of Lifetime IPV**

228 Nearly 1 in 4 (23.07%) women reported that they had experienced physical abuse from a
 229 current or former partner since the age of 15 (**Fig 1**). This prevalence is similar to the IPV
 230 experienced within the preceding 12 months (21.34%) (**S3 Fig**). Figure 2 shows the breakdown of
 231 regional variation in Lifetime IPV across all provinces. Manica had the highest rate at 37.3%,
 232 followed by Cabo Delgado at 27.1% and Sofala at 28.4%. The lowest prevalence was found in
 233 Tete at 14.8% and Niassa at 9.6%.

234 **[Figure 1. The prevalence of Lifetime Intimate Partner Violence (IPV) among women in**
 235 **Mozambique, based on the 2022-2023 DHS study, with a prevalence of 23.07% (N=4813)]**

236

237 **[Figure 2. Provincial variation in the prevalence of Lifetime Intimate Partner Violence (IPV)**
 238 **among women in Mozambique, as reported in the 2022-2023 DHS study, highlighting the**
 239 **highest prevalence in Manica and the lowest in Niassa (N=4813)]**

240

241 Individual-Level Factors Associated with the Prevalence of Lifetime IPV

242 Several individual-level factors were significantly associated with Lifetime IPV in this study
 243 (Table 2). Marital status was a strong determinant; women with a partner having a 61.7% higher
 244 likelihood of experiencing Lifetime IPV compared to those who had never been in a union (aOR
 245 1.617, 95% CI 1.288, 2.029). Women who are no longer with a partner had 78.7% higher odds of
 246 Lifetime IPV (aOR: 1.787, 95% CI 1.372, 2.328). Education also played a role, women with higher
 247 than secondary education reporting decreased odds of Lifetime IPV (aOR: 0.656, 95% CI 0.449,
 248 0.958). Employment status was another key factor; employed women had a 33.9% increased
 249 likelihood of experiencing Lifetime IPV compared to those not employed (aOR: 1.339, 95% CI
 250 1.138, 1.576). Justification for beating was positively associated with Lifetime IPV; women
 251 expressing moderate degree of justification having 40.8% higher odds of Lifetime IPV (aOR:
 252 1.408, 95% CI 1.114, 1.772) compared to those who did not justify violence. Husband/partner's
 253 alcohol consumption was one of the strongest predictors. Husbands/partner's alcohol drinking
 254 nearly tripled the odds of Lifetime IPV (aOR: 2.928, 95% CI 2.492, 3.443).

255 **Table 2. Results from the Multivariable Analysis, Full Model Showing Significant Factors at**
 256 **Individual- and Context-level and Lifetime Intimate Partner Violence. Demographic and**
 257 **Health Survey, 2022-2023, Mozambique**
 258

Independent Variables	History of IPV	
	Adjusted OR [95% CI]	p-value
Woman's Age		0.3871
15 – 24	1.00 [Ref]	
25 – 34	1.101 [0.890,1.363]	
35 – 44	1.039 [0.801,1.347]	
≥ 45	0.867 [0.621,1.205]	
Husband/Partner's Age		0.1029
15 – 24	1.00 [Ref]	
25 – 34	1.250 [0.924,1.700]	

≥ 35	1.426 [1.028,1.9]	
Woman's Marital Status		<0.0001
Never in Union	1.00 [Ref]	
Married	0.972 [0.744, 1.270]	
Living with a Partner	1.617 [1.288, 2.029]	
No longer living together/separated	1.787 [1.372, 2.328]	
Woman's Educational Level		0.0894
No Formal Education	1.00 [Ref]	
Primary	1.044 [0.851, 1.280]	
Secondary	1.116 [0.923, 1.349]	
Higher	0.656 [0.449, 0.958]	
Husband/Partner's Educational Level		0.3465
No Formal Education	1.00 [Ref]	
Primary	1.044 [0.844,1.292]	
Secondary Education or Higher	0.876 [0.670,1.144]	
Woman's Current Employment Status		0.0004
No	1.00 [Ref]	
Yes	1.339 [1.138,1.576]	
Woman's Justification for Beating		0.0059
No justification	1.00 [Ref]	
Moderate Justification	1.408 [1.114,1.772]	
Moderate-to-complete Justification	1.286 [0.967,1.698]	
Husband/Partner's Alcohol Consumption		<0.0001
No	1.00 [Ref]	
Yes	2.928 [2.492,3.443]	
Type of Place of Residence		0.1515
Rural	0.877 [0.734,1.050]	
Urban	1.00 [Ref]	
Province of Residence		<0.0001
Niassa	0.445 [0.291,0.672]	
Cabo Delgado	1.640 [1.163,2.318]	
Nampula	1.340 [0.939,1.915]	
Zambézia	1.034 [0.707,1.508]	
Tete	1.139 [0.807,1.607]	
Manica	2.660 [1.899,3.738]	

Sofala	1.143 [0.822,1.590]	
Inhambane	0.679 [0.472,0.973]	
Gaza	0.570 [0.391,0.826]	
Maputo	1.00 [Ref]	
Cidade de Maputo	1.108 [0.786,1.562]	
Woman's Educational Level X Woman's Marital Status		0.0078
Primary X Married	1.348 [0.857,2.119]	
Primary X Living with a Partner	2.266 [1.517, 3.384]	
Primary X No longer living together/separated	1.777 [1.122, 2.813]	
Secondary X Married	1.363 [0.864, 2.152]	
Secondary X Living with a Partner	1.482 [1.001, 2.193]	
Secondary X No longer living together/separated	1.909 [1.204, 3.025]	
Higher X Married	0.308 [0.137, 0.695]	
Higher X Living with a Partner	1.396 [0.688, 2.835]	
Higher X No longer living together/separated	1.543 [0.686, 3.471]	
Model Fitness	Chi-Square	p-value
Hosmer-Lemeshow	6.6669	0.5730

259 *All boldened p-values are statistically significant

260 ¶Interaction Term: Woman's Education X Marital Status

261 ^a Full list of variables included in initial analysis: Woman's Age, Husband/Partner's Age, Woman's Marital Status,
 262 Woman's Educational Level, Husband/Partner's Educational Level, Woman's Current Employment Status, Woman's
 263 Access to Media, Woman's Justification for Beating from Husband, Husband/Partner's Alcohol Consumption, Wealth
 264 Index, Type of Place of Residence, Province of Residence. All non-significant variables (p<0.20) were subsequently
 265 excluded from multivariate analysis.

266

267 An effect modification involving women's educational level and marital status was also
 268 observed. Women with primary education who were living with a partner (aOR: 2.266, 95% CI
 269 1.517, 3.384) or separated (aOR: 1.777, 95% CI 1.122, 2.813) had significantly higher odds of
 270 Lifetime IPV compared to those with no formal education who had never been in a union. For
 271 women with secondary education, those living with a partner (aOR: 1.482, 95% CI 1.001, 2.193)
 272 or separated (aOR: 1.909, 95% CI 1.204, 3.025) also had increased odds of Lifetime IPV. Figure
 273 3 further illustrates the interaction between women's educational level and marital status and the
 274 associated probabilities of Lifetime IPV.

275 **[Figure 3. Interaction plot showing the predicted probabilities of experiencing Lifetime IPV**
 276 **across education levels and marital statuses. Higher education reduces the likelihood of**

277 **Lifetime IPV, especially for married women, while those living with a partner or separated**
278 **show consistently higher probabilities across all education levels.]**

279
280 For women with no formal education, those who have never been in a union show the lowest
281 probability of IPV, while the highest probabilities are seen in those living with a partner or no
282 longer living together. Among women with primary education, IPV probabilities are similar for
283 those who are married or living with a partner, ranging from 0.22 to 0.30, while the gap between
284 these groups and those never in union becomes more distinct. In secondary education, the
285 probability of IPV increases slightly for married or partnered women, with separated women
286 showing the highest IPV likelihood. For women with higher education, the probability of IPV
287 decreases significantly for married individuals, but remains relatively high, around 0.30–0.33, for
288 those living with a partner or separated. Overall, being married appears to reduce the probability
289 of IPV as education increases, while the risks for those living with a partner or separated remain
290 elevated across all education levels.

291 **Context-Level Factors Associated with the Prevalence of Lifetime IPV**

292 The province of residence significantly impacted Lifetime IPV prevalence. Women from
293 Cabo Delgado (aOR: 1.640, 95% CI 1.163, 2.318) and Manica (aOR: 2.660, 95% CI 1.899, 3.738)
294 were at substantially higher odds of experiencing Lifetime IPV than those in Maputo. Conversely,
295 women from Niassa (aOR: 0.445, 95% CI 0.291, 0.672), Inhambane (aOR: 0.679, [95% CI: 0.472,
296 0.973]), and Gaza (aOR: 0.570, 95% CI 0.391, 0.826) were less likely to experience IPV. No other
297 context-level variables were significantly associated with Lifetime IPV. The Hosmer-Lemeshow
298 test indicated a good fit for the logistic regression model ($\chi^2 = 6.67$, $p = 0.573$).

299 **Discussion**

300 Our study explored the prevalence and determinants of Lifetime IPV among women in
301 Mozambique using data from the 2022-2023 Mozambique DHS. The study highlights key
302 individual-level factors influencing IPV prevalence, including marital status, educational
303 attainment, employment, justification of violence, and husband/partner's alcohol consumption.
304 We also found a significant effect modifier involving marital status and education level. On a
305 contextual level, the study revealed regional disparities in IPV prevalence with women in Cabo
306 Delgado and Manica reporting the highest IPV experiences.

307 Our study also revealed that marital status strongly influences the prevalence of Lifetime
308 IPV. Women who were married, cohabitating, or separated were more likely to have experienced
309 IPV in their lifetime than those who were not in a union. These findings align with the literature
310 on this topic.(3,7,25) Studies show that IPV rates are higher among women with husbands/partners
311 because men often use physical violence as a means to discipline as well as assert power and
312 dominance over their wives/female partners.(25,26) Furthermore, women's excessive reliance on
313 their husbands/partners, in traditional Sub-Saharan African settings, further contributes to the high
314 prevalence of IPV in certain cultures.(7,26)

315 Interestingly, our findings indicate that a woman's education and employment are associated
316 with a higher likelihood of experiencing IPV during her lifetime. This is notable since education
317 and jobs are considered strong indicators of women's autonomy and their financial and social
318 power.(3,7,13) This somewhat counter-intuitive finding can be attributed to the deep-rooted rigid
319 socio-cultural and gender norms found in many African countries.(3,8,15,17,20,25,27) As noted
320 by Izugbara et al, educated and financially stable women may disrupt, even challenge, men's
321 traditional perceptions of their role as leaders, decision-makers, and primary providers in the
322 household.(25) Thus, for men who strongly embrace conventional masculine norms, including

323 male authority and dominance, this shift can heighten tensions and raise the risk of physical
324 abuse.(25) Furthermore, some studies suggest that when husbands/partners are better educated or
325 have higher-paying jobs, a woman's education or occupation may not increase her risk of IPV, as
326 power dynamics in this type of unions still favor men.(3,8,26) Our study however did not find any
327 impact of husbands/partner's education on IPV prevalence.

328 Consistent with existing literature, this study found that women's justification of physical
329 abuse significantly raised their odds of experiencing IPV.(7,15) One study estimates that women's
330 justification of physical abuse increases their likelihood of experiencing IPV by 30% while another
331 study estimates a 57% higher odds of experiencing physical abuse.(7,25) A woman's acceptance
332 and justification of physical abuse are shaped by community attitudes that favor physical violence
333 while dismissing female victimization. This context and environment not only increases the
334 likelihood of being a victim but also pressures IPV victims to remain silent and accept the
335 abuse.(4,15)

336 Another strong predictor of Lifetime IPV is a husband/partner's alcohol consumption. We
337 found that women whose husbands/partners consumed alcohol were more than twice as likely to
338 experience IPV in their lifetime than those whose husbands/partners did not drink. Other studies
339 have shown even stronger evidence that a husband/partner's alcohol abuse increases the risk of
340 experiencing abuse.(27–29) For instance, Olagbuji and colleagues found that having a partner who
341 consumes alcohol raises the odds of experiencing IPV by 11 times.(29) Some sources suggest that
342 alcohol consumption or addiction may lead men to neglect their families, increasing tensions in
343 their intimate relationships that could result in physical abuse.(7) Others argue that alcohol
344 consumption triggers immediate biological changes in men that lead to increased aggression and
345 abuse toward their partners.(18)

346 Notably, the effect modification between marital status and education highlights how the
347 intersection of these two individual-level factors can either heighten or mitigate the likelihood of
348 experiencing IPV. This finding emphasizes the importance of recognizing how multiple
349 dimensions of a woman's identity and social position, intersect to shape her vulnerability to IPV
350 in Mozambique. Higher educational attainment in women is typically linked to greater autonomy
351 and resource access, which can reduce IPV risk.(30,31) However, in the contexts of strong
352 traditional gender norms, educated women in intimate partner relationships might still greater
353 vulnerability to experiencing IPV as their greater autonomy and independence challenge societal
354 roles.(32) An intersectional approach provides a deeper understanding of these complexities and
355 helps target effective interventions and policies.

356 On the contextual level, IPV prevalence varied by province, with Cabo Delgado and Manica
357 having the highest statistics, and Inhambane and Gaza having the lowest. This disparity in IPV
358 prevalence could be related to unequal wealth distribution across the country. According to a 2018
359 World Bank report, southern provinces like Inhambane, Gaza, Maputo, and Maputo City have
360 smaller wealth distribution gaps between rural and urban areas and have a more even distribution
361 of basic services, compared to others like Cabo Delgado, Manica, and Niassa.(33) Thus, unequal
362 wealth and resource distribution in some provinces can worsen economic hardship, power
363 imbalances, and psychological strain in relationships, increasing women's vulnerability to IPV in
364 their lifetime.

365 **Strengths and Limitations**

366 The biggest strength of this study is that it utilized the most current data from a large,
367 nationally representative dataset to provide a detailed analysis of Lifetime IPV prevalence, making
368 our results generalizable to all women between 15 and 49 years in Mozambique. Additionally, our

369 analysis effectively examined both individual- and contextual-level factors, therefore offering a
370 holistic view of the phenomenon of IPV in the country. Furthermore, the study identified
371 significant effect modification results between marital status and education, contributing to the
372 understanding of how multiple dimensions of a woman's identity affect IPV prevalence. Again,
373 our study highlights important provincial variations in IPV prevalence, helping to identify high-
374 risk areas of IPV that will guide tailored interventions accordingly.

375 Despite these strengths, some limitations exist. For example, the cross-sectional nature of the
376 study prevents us from establishing a causal relationship between the independent variables and
377 Lifetime IPV. Due to the stigma regarding IPV, some women may refuse to disclose their
378 experience of abuse, leading to underreporting, and potentially skewing the final results.
379 Furthermore, the use of self-report questionnaires could lead to non-differential misclassification
380 and/or recall bias.

381 **Conclusion**

382 Our study utilized the Mozambique DHS 2022-2023 data to examine the current prevalence
383 of Lifetime IPV in the country and to identify the specific individual and contextual factors
384 contributing to it. Our findings showed that almost 1 in 4 women experienced IPV in their lifetime.
385 Marital status emerged as a key factor, with women who are currently married, cohabitating, or
386 separated being at the highest odds of experiencing IPV in their lives. Educational attainment and
387 current employment also played critical roles. Higher education levels and current employment
388 correlated with increased IPV prevalence. Furthermore, the justification of violence significantly
389 influenced IPV prevalence. Similarly, husbands/partners' consumption of alcohol was strongly

390 associated with Lifetime IPV prevalence. Finally, provincial disparities in Lifetime IPV were
391 evident, with notably higher IPV estimates in Cabo Delgado and Manica.

392 Overall, our findings underscore the importance of targeted interventions that address socio-
393 cultural norms, improve educational opportunities, mitigate alcohol consumption, and implement
394 province-specific strategies to effectively combat Lifetime IPV and enhance women's health and
395 safety in Mozambique.

396

397 **Author Contributions**

398 Conceptualization: MM and NM; Formal Analysis: MM and NM; Methodology: MM and NM;
399 Supervision: NM; Funding and Provenance: NM; Writing – Original draft: MM. Writing – Review
400 & Editing: NM.

401

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406 project colleagues.

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506 **Supporting Information List**

507

508 **S1 Figure.** The theoretical framework of physical violence against women during pregnancy.
509 Four different levels contribute to the risk of physical violence during pregnancy. Level 1 includes
510 contextual factors, Level 2 includes both a woman and her husband/partners socio-demographic
511 indicators, Level 3 encompasses the dynamics within the relationship between a woman and her
512 husband/partner, and Level 4 contains factors associated with the woman’s attitudes and intentions
513 towards physical abuse. Adapted from intimate partner violence and unintended pregnancy
514 framework by Azevêdo et al., (2013).

515

516 **S2 Table.** Details about Independent Variables and their Recode Status from Mozambique 2022-
517 2023 Demographic and Health Survey Dataset

518

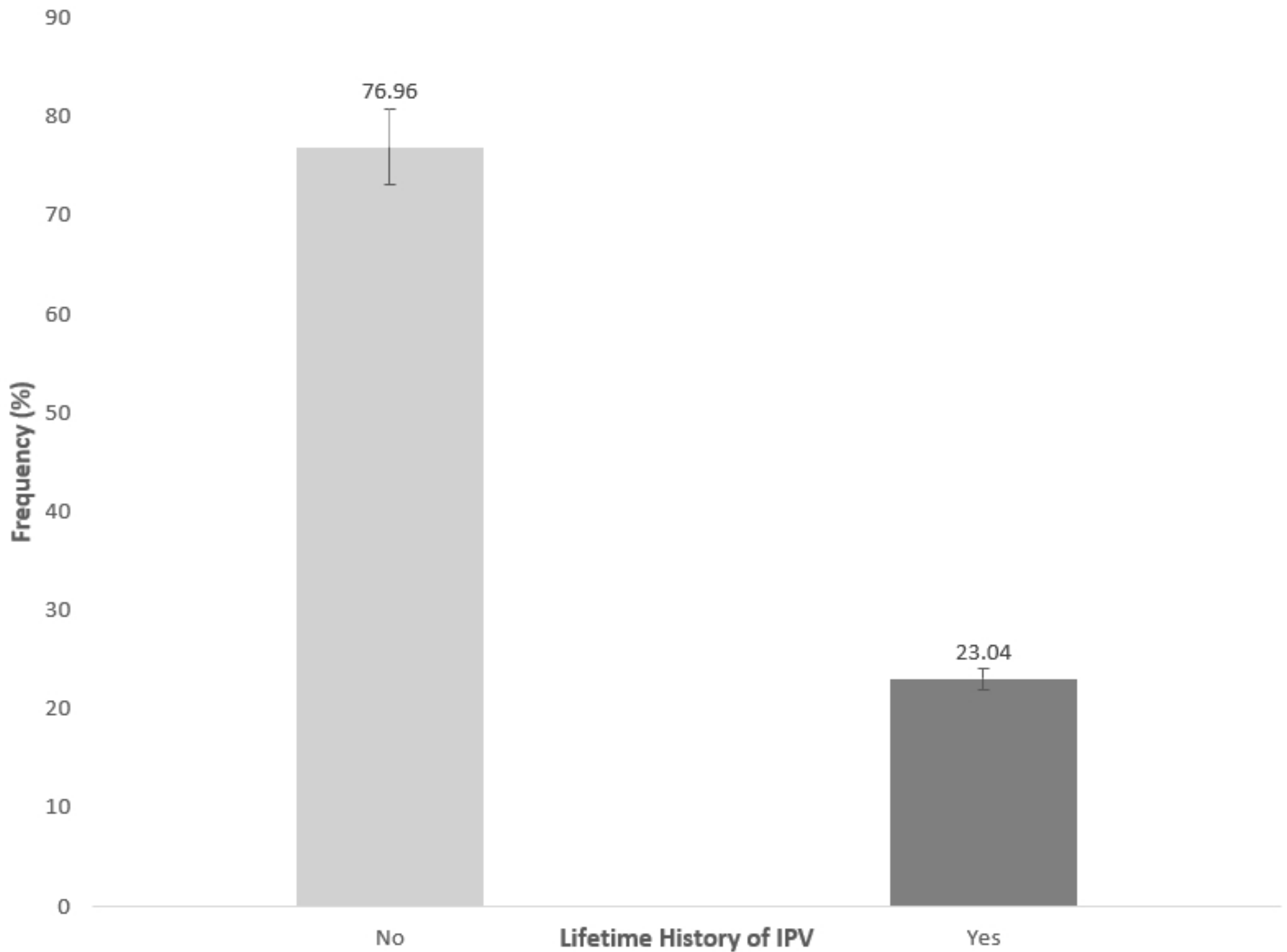
519 **S3 Figure.** The prevalence of Intimate Partner Violence (IPV) in the last 12 months among women
520 in Mozambique, based on the 2022-2023 Demographic and Health Survey, with a prevalence of
521 21.34% (N=4813)

522

523 **S4 Table.** Results from Bivariate Analyses Between All Independent Variables and History of
524 Intimate Partner Violence. Demographic and Health Survey, 2022-2023, Mozambique

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526



Prevalence of Lifetime IPV Among 15-to-49 Year Old Women Across Mozambican Provinces
(DHS 2023 Report)

