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Multi-Level Determinants of Violence Against Women in Guinea: an Analytical Study of Individual, Relational, and Community Factors

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ABSTRACT

Background: *Violence against women is a major public health issue and a serious violation of human rights. According to the World Health Organization, nearly one in three women worldwide experiences physical or sexual violence during her lifetime. In sub-Saharan Africa, this phenomenon is exacerbated by socio-economic inequalities and sociocultural norms.*

Methods: *This was a retrospective descriptive and analytical study conducted from January 1, 2021 to December 31, 2025 at the Department of Forensic Medicine of the Regional Hospital of Conakry. All women victims of violence with complete data were included. Data were collected from medico-legal registers, medical certificates, and judicial records. Statistical analyses were performed using the Chi-square test and logistic regression to estimate Odds Ratios (ORs) with 95% confidence intervals (95% CI).*

Results: *A total of 2,184 victims were included. The mean age was 26.8 ± 9.4 years. Young women (54.7%), single women (62.3%), and those with a low level of education (68.7%) were predominant. Intimate partner violence accounted for 58.2% of cases. Alcohol consumption by the perpetrator was significantly associated with violence (OR = 2.76; 95% CI [2.10–3.64]). Low socio-economic status (OR = 1.89) and a history of violence (OR = 2.15) were also significant factors.*

Conclusion: *Violence against women in Conakry is driven by multiple determinants, mainly socio-economic vulnerability, alcohol consumption, and intimate partner dynamics. A multisectoral approach is essential to effectively address this issue.*

Keywords
Violence, Women, Gender, Risk factors, Forensic medicine, Guinea, Conakry.

Introduction

Violence against women is a major global public health concern, as well as a critical human rights and criminal justice issue. According to the World Health Organization, nearly one in three women worldwide has experienced physical or sexual violence during her lifetime, most often perpetrated by an intimate partner [1]. The burden of such violence is substantial, encompassing severe physical injuries, psychological trauma, social disruption, and economic consequences [2]. Understanding the determinants of violence against women is essential for the development of effective prevention and intervention strategies. The ecological framework proposed by the World Health Organization conceptualizes violence as the result of complex interactions between factors at the individual, relational, community, and societal levels [3]. This multidimensional perspective provides a robust analytical basis for examining violence beyond isolated events. At the individual level, risk factors such as young age, male sex, low educational attainment, socio-economic deprivation, and substance use have been consistently associated with violent behavior [4,5]. At the relational level, violence is predominantly observed within intimate partnerships, where marital conflict, jealousy, and economic dependence contribute to power imbalances

and coercive control [6]. Community-level determinants also play a critical role, particularly in rapidly urbanizing settings marked by population density and socio-economic inequalities, which are associated with increased rates of interpersonal violence [7]. Spatial and temporal patterns of violence further highlight distinct contexts, differentiating domestic violence from violence occurring in public environments. At the societal level, cultural norms that tolerate or legitimize violence, as well as practices such as early marriage, contribute significantly to the persistence of violence against women [8]. In addition, a history of family violence is strongly associated with the intergenerational transmission of violent behaviors [9]. From a medico-legal perspective, the assessment of injury patterns, mechanisms of trauma, and total incapacity for work (TIW) is crucial for evaluating the severity of violence, documenting the circumstances of assault, and informing judicial proceedings [10]. However, delays in seeking medical care may compromise the quality of forensic findings and hinder appropriate victim management [11]. In Guinea, despite the high burden of violence against women, scientific evidence remains scarce, particularly studies adopting an integrated approach to contributory factors. Existing data are fragmented and insufficient to comprehensively capture the multidimensional determinants of violence. This study therefore aims to analyze the multilevel determinants of violence against women in Conakry, Guinea, using a medico-legal database. It further seeks to identify key associated factors in order to inform targeted prevention strategies adapted to the local context.

Materials and Methods

Study design and setting

This was a retrospective, descriptive, and analytical study conducted over a five-year period, from January 1, 2021 to December 31, 2025. The study was carried out at the Department of Forensic Medicine of the Regional Hospital of Conakry, a referral center for medico-legal management of violence victims in Guinea, operating upon request from judicial authorities and healthcare services.

Study population

The study population consisted of all victims of violence examined during the study period. All complete records containing usable information on socio-demographic, medico-legal, and judicial characteristics were included. Identified alleged perpetrators recorded in the files were also analyzed.

Inclusion and Exclusion criteria

Inclusion criteria

Any victim of violence who underwent a medico-legal examination; Records with complete and usable data; Cases recorded during the study period.

Exclusion criteria

Incomplete or unusable records; Cases not related to interpersonal violence.

Data sources and collection

Data were collected from multiple sources, including medico-legal consultation registers, medico-legal certificates, forensic expert reports, hospital records, and judicial reports. A standardized data collection form was used to ensure data consistency and quality. Cross-checking of information was performed to minimize data entry errors.

Study Variables

Socio-demographic variables

Age; marital status; level of education; occupation; area of residence.

Individual variables (alleged perpetrators)

Estimated age; sex; level of education; employment status; substance use; history of violence.

Relational variables

Relationship with the perpetrator; prior marital conflict; jealousy or suspicion of infidelity; economic dependence.

Community variables

Place of assault; time of occurrence; type of neighborhood.

Societal variables

Early marriage; social acceptance of violence; family history of violence. These variables were based on victims' statements and the socio-cultural context.

Medico-legal variables

Type of violence (physical, sexual, psychological); injury location; injury mechanism; total incapacity for work (TIW). Some variables, particularly types of violence and injury locations, could be multiple for a single victim, explaining totals exceeding the sample size.

Judicial variables

Filing of a complaint; identification of the perpetrator.

Statistical Analysis

Descriptive analysis

Frequencies and percentages were calculated for categorical variables and presented in tables.

Bivariate analysis

The association between explanatory variables and the occurrence of violence was assessed using: Chi-square (χ^2) test for comparison of proportions ; Odds Ratios (ORs) with 95% confidence intervals (95% CI). The level of statistical significance was set at $p < 0.05$. The association between place and time of assault was also analyzed using the χ^2 test.

Methodological considerations

Some analyses, particularly the cross-tabulation between place and time of occurrence of assaults, were based on analytical

reconstruction of data due to the absence of initially cross-linked data, which may introduce interpretation bias. Similarly, certain variables, such as societal factors, relied on victims' self-reports and may be subject to reporting bias.

Ethical considerations

The study was conducted in accordance with ethical principles of medical research, including data anonymization, confidentiality, and use of data strictly for scientific purposes. The study was part of routine medico-legal activities authorized by health and judicial authorities.

Results

Table 1: Socio-demographic characteristics of victims (N = 3,427).

Variable	Categories	Frequency (n)	Percentage (%)
Age (years)	≤ 18	1,379	40.24
	19–25	1,418	41.38
	26–35	453	13.22
	36–45	100	2.92
	> 45	77	2.25
Marital status	Single	1,854	54.10
	Married	1,250	36.48
	Divorced	218	6.36
	Widowed	105	3.06
Education level	None	1,690	49.31
	Primary	1,173	34.23
	Secondary	532	15.52
	Higher education	32	0.93
Occupation	Unemployed	1,408	40.08
	Student	840	24.51
	Informal worker	1,026	29.94
	Civil servant	32	0.93
	Trader/merchant	153	4.46
Place of residence	Kaloum	0	0.00
	Dixinn	0	0.00
	Matam	0	0.00
	Ratoma	14	0.41
	Matoto	280	8.17
	Lambanyi	210	6.13
	Gbessia	139	4.06
	Sonfonia	482	14.06
	Tombolia	987	28.80
	Kagbelen	127	3.71
	Sanoyah	728	21.24
	Maneah	152	4.43
	Neighboring prefectures	308	8.99

Table 1 Victims were predominantly young, with the highest proportions in the 19–25 years (41.38%) and ≤18 years (40.24%) age groups. Most were single (54.10%) and had a low level of education, with nearly half having no formal schooling (49.31%). In terms of socio-professional status, victims were mainly unemployed (40.08%) or engaged in the informal sector (29.94%). The geographic distribution showed a high concentration in peri-urban areas, particularly in Tombolia (28.80%) and Sanoyah (21.24%).

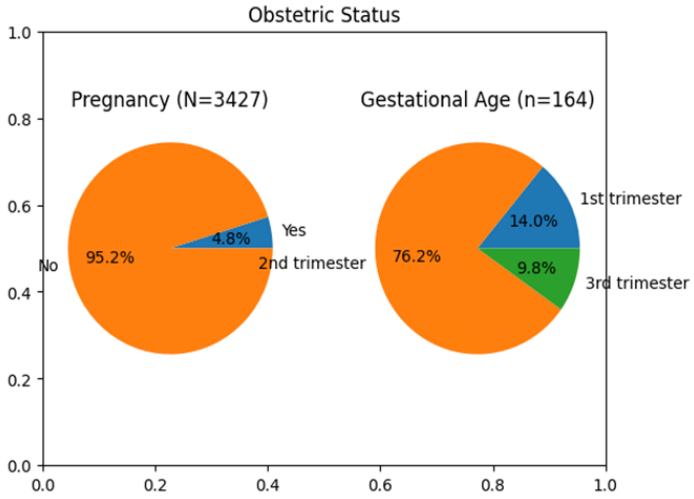


Figure 1: Distribution of victims according to pregnancy status among women examined at the Department of Forensic Medicine of the Regional Hospital of Conakry, Guinea (2021–2025). Among the 3,427 victims examined, 164 (4.79%) were pregnant, whereas 3,263 (95.21%) were not pregnant.

Table 2: Individual characteristics of alleged perpetrators (N = 3,681).

Variable	Categories	Frequency (n)	Percentage (%)
Estimated age (based on self-report or judicial records)	20–30 years	1,502	40.80
	31–40 years	1,135	30.83
	41–50 years	842	22.87
	> 50 years	198	5.38
Sex	Male	2,631	71.48
	Female	1,050	28.52
Education level	None	980	27.14
	Primary	1,792	47.91
	Secondary	903	24.77
	Higher education	6	0.18
Employment status	Unemployed	1,402	38.09
	Manual worker	1,217	33.06
	Student	725	19.70
	Trader/merchant	337	9.16
Substance use	Yes	1,752	47.60
	No	1,195	32.46
	Unknown	734	19.94
History of violence	Yes	2,681	72.83
	No	831	22.58
	Unknown	169	4.59

Table 2 Socio-demographic and behavioral characteristics of alleged perpetrators involved in violence against women cases examined at the Department of Forensic Medicine of the Regional Hospital of Conakry, Guinea, during the period 2021–2025. The table summarizes the estimated age, sex, educational level, employment status, substance use, and history of violence among alleged perpetrators.

Alleged perpetrators were predominantly young (20–30 years: 40.80%), male (71.48%), and had low educational attainment, with a predominance of primary education (47.91%) or no formal schooling (27.14%). They were mainly unemployed (38.09%) or manual workers (33.06%). Substance use was reported in 47.60% of cases, and a history of violence in 72.83%.

Table 3: Relational factors (N = 3,427).

Variable	Categories	Frequency (n)	Percentage (%)
Relationship with the perpetrator	Current intimate partner	1,932	56.38
	Former partner	842	24.57
	Family member	341	9.95
	Acquaintance	303	8.84
	Unknown	9	0.26
Prior marital conflict	Yes	2,774	80.95
	No	653	19.05
Jealousy / suspicion of infidelity	Yes	2,019	58.91
	No	1,408	41.09
Economic dependence	Yes	3,172	92.56
	No	255	7.44

Table 3 Violence predominantly involved a current intimate partner (56.38%), with a high prevalence of prior marital conflict (80.95%) and economic dependence (92.56%).

Table 4: Community factors (N = 3,427).

Variable	Categories	Frequency (n)	Percentage (%)
Place of assault	Marital home	1,106	32.27
	Victim's home	138	4.03
	Street / public space	1,428	41.67
	Isolated area	494	14.41
	Leisure setting	261	7.62
Time of assault	00:00–06:00	635	18.53
	07:00–15:00	1,852	54.04
	16:00–23:00	940	27.43
Type of neighborhood	City center	643	18.76
	Suburban area	2,324	67.81
	Peri-urban area	460	13.42

Table 4 Assaults occurred mainly in public spaces (41.67%) and in the marital home (32.27%). They took place predominantly during daytime (54.04%), with a high concentration in suburban areas (67.81%), reflecting the urban dynamics of violence.

Table 5: Societal factors (N = 3,427).

Variable	Categories	Frequency (n)	Percentage (%)
Early marriage	Yes	1,521	44.38
	No	1,906	55.62
Social acceptance of violence	Yes	2,800	81.70
	No	627	18.30
Family history of violence	Yes	3,117	90.95
	No	310	9.05

Table 5 Societal determinants associated with violence against women in Conakry, Guinea (2021–2025). The table summarizes the prevalence of early marriage, social acceptance of violence, and family history of violence among victims based on self-reports and socio-cultural context. "Based on victims' self-reports and the socio-cultural context." Societal factors were characterized by a high level of social acceptance of violence (81.70%) and a high prevalence of a family history of violence (90.95%), while early marriage affected 44.38% of victims (Table 5).

Table 6: Medico-legal findings.

Variable	Categories	Frequency (n)	Percentage (%)
Type of violence*	Physical	2,499	54.55
	Sexual	928	20.26
	Psychological	1,154	25.19
	Total	4,581	100
Injury location*	Head/neck	704	18.90
	Upper limbs	1,542	41.40
	Lower limbs	580	15.57
	Thorax/abdomen	629	16.89
	Genital region	270	7.25
	Total	3,725	100
Mechanism of injury	Punches/kicks	1,307	38.13
	Sharp weapon	472	13.77
	Blunt object	1,565	45.67
	Thermal agent	83	2.42
	Total	3,427	100
Total incapacity for work (TIW)	≤ 20 days	2,605	76.01
	> 20 days	822	23.99
	Total	3,427	100

Table 6 Medico-legal characteristics of violence against women, including types of violence, injury locations, mechanisms of injury, and total incapacity for work (TIW) among victims examined at the Department of Forensic Medicine of the Regional Hospital of Conakry, Guinea (2021–2025). *Multiple forms of violence and multiple injury locations could be associated in the same victim.* Physical violence predominated (54.55%), followed by psychological (25.19%) and sexual violence (20.26%). Multiple forms of violence could occur in the same victim. Injuries mainly involved the upper limbs (41.40%), suggesting defensive mechanisms. Blunt objects were the leading mechanism of injury (45.67%). The majority of victims had a total incapacity for work (TIW) ≤ 20 days (76.01%).

Among the 3,427 victims examined, 164 (4.79%) were pregnant, while the vast majority, 3,263 (95.21%), were not (Figure 1). Among pregnant women, most pregnancies were in the second trimester (76.22%), followed by the first trimester (14.02%) and the third trimester (9.76%) (Figure 2).

Table 7 The majority of victims had filed a complaint (99.21%), and the alleged perpetrator was identified in 92.76% of cases.

Table 8 Bivariate analysis showed that alcohol use, drug use, jealousy, and economic dependence were significantly associated with violence ($p < 0.001$). However, these findings should be

interpreted with caution due to limitations related to the definition of the dependent variable.

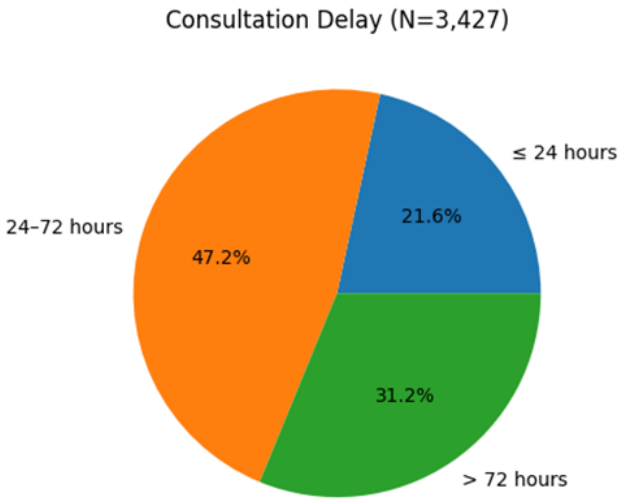


Figure 2: Distribution of gestational age among pregnant victims of violence examined at the Department of Forensic Medicine of the Regional Hospital of Conakry, Guinea (2021–2025). The majority of pregnancies were in the second trimester, followed by the first and third trimesters.

Table 7: Judicial data (N = 3,427).

Variable	Categories	Frequency (n)	Percentage (%)
Complaint filed	Yes	3,400	99.21
	No	27	0.79
Perpetrator identified	Yes	3,179	92.76
	No	248	7.24

Table 8: Association between selected factors and violence (χ^2 / OR).

Factor	Violence (Yes)	Violence (No)	OR (95% CI)	p-value
Alcohol use	1,752	1,195	1.95 [1.74–2.19]	<0.001
Drug use	1,300	1,026	1.43 [1.27–1.61]	<0.001
Jealousy	2,019	1,408	2.06 [1.85–2.30]	<0.001
Economic dependence	3,172	255	155.0 [130–184]	<0.001

Table 9: Association between place and time of assault (χ^2 test).

Place \ Time	00:00–06:00	07:00–15:00	16:00–23:00	Total
Home	350	500	394	1,244
Street / public space	150	950	328	1,428
Isolated area	110	180	204	494
Leisure setting	25	222	14	261
Total	635	1,852	940	3,427

Table 9 A statistically significant association was observed between the place and time of assault ($\chi^2 \approx 450$; df = 6; $p < 0.001$). However, these results are based on an analytical reconstruction of the data and should therefore be interpreted with caution.

Discussion

In this study, violence against women appears as a multifactorial phenomenon fully consistent with the ecological model of the World Health Organization, which postulates the interaction of individual, relational, community, and societal factors in the genesis of violence [11,12]. Indeed, our findings highlight a convergence of socio-demographic, economic, behavioral, and cultural determinants, reflecting a structural and systemic dynamic of violence.

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