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Epidemiological Criminological and Medico Legal Characteristics of Assaults and Bodily Injuries in Guinea Over a Twelve Year Period

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Abstract

Background

Assaults and bodily injuries constitute a major component of medico-legal activity in sub-Saharan Africa, reflecting both the prevalence of interpersonal violence and the functioning of criminal justice systems.

Objective

This study aimed to analyse the epidemiological, criminological, and medico-legal characteristics of assaults and bodily injuries examined at the Regional Hospital of Labé over a twelve-year period, and to assess the role of forensic medicine in the judicial processing of interpersonal violence.

Methods

A retrospective descriptive study was conducted from 1 January 2012 to 31 December 2024, based on medico-legal records of victims examined upon judicial requisition. Data were extracted using a standardised collection form and analysed using EpiData and Epi Info software.

Results

A total of 19,050 cases of assaults and bodily injuries were recorded, representing 74% of medico-legal consultations. Victims were predominantly young adult males (mean age: 29 years). Violence occurred mainly in public spaces and homes, with a predominance of intentional acts (91%) and single perpetrators (94.39%). Injuries were mostly superficial or moderate, and blunt objects were used in 83.47% of cases. Most victims (93%) had a total temporary incapacity for work (TTI) ≤ 21 days.

Conclusion

Assaults and bodily injuries represent a mass criminal caseload in Guinea. Beyond their epidemiological characteristics, they highlight the central role of medico-legal expertise in the institutional capture and judicial regulation of interpersonal violence. Strengthening standardisation and prevention strategies is essential in this context.

INTRODUCTION

Interpersonal violence constitutes a major social, public health, and criminological issue whose expression varies according to socio-economic, cultural, and institutional contexts [1, 2]. Among its manifestations, assaults and bodily injuries represent one of the most frequent forms of violence

managed by criminal justice systems and occupy a central place in medico-legal and judicial activities. In sub-Saharan Africa, these offences are particularly frequent in contexts characterised by socio-economic precariousness, rapid urbanisation, demographic growth, and weakened traditional mechanisms of conflict regulation [3, 4, 5]. In Guinea, physical violence appears as a recurrent mode of managing interpersonal and community conflicts [6]. From a criminological perspective, assaults and bodily injuries are understood as multifactorial phenomena resulting from the interaction of individual, social, and situational factors [7]. Routine Activity Theory explains violence through the convergence of a motivated offender, a suitable victim, and the absence of capable guardians [8], while the Subculture of Violence theory highlights that violence may be socially tolerated in certain environments [9]. These approaches contribute to understanding the persistence of interpersonal violence in socially vulnerable contexts. Medico-legal expertise occupies a central role in the judicial management of assaults and bodily injuries. Through clinical examination, forensic medicine documents injuries, evaluates their severity, and determines total temporary incapacity for work (TTI), which constitutes a key element in the legal qualification and judicial grading of violent acts [10, 11]. In many Francophone African legal systems, TTI thresholds play a decisive role in the penalisation of interpersonal violence [12, 13]. However, despite the importance of medico-legal activity in Guinea, available data remain insufficiently exploited from scientific and criminological perspectives [6, 14]. Most studies conducted in sub-Saharan Africa remain descriptive, limited to short periods and major urban centres, and rarely integrate criminological theories or institutional analyses of medico-legal practices [6]. Consequently, there remains a lack of longitudinal analyses capable of examining both the epidemiological dynamics of interpersonal violence and the institutional role of forensic medicine in the judicialisation of assaults and bodily injuries. The general objective of this study was to analyse the epidemiological, clinical and medico-legal characteristics of assault and battery cases recorded in the Labé region over a twelve-year period. More specifically, the study aimed to: describe the socio-demographic profile of victims; identify the main circumstances and mechanisms of assaults; analyse the clinical and medico-legal characteristics of injuries; examine the temporal evolution of cases during the study period; and assess the medico-legal and judicial implications of the recorded violence. This study is grounded in a criminological and medico-legal approach to interpersonal violence. It is particularly informed by Routine Activity Theory developed by Cohen and Felson [8], according to which violence occurs through the convergence of a motivated offender, a suitable victim, and the absence of effective social control. This approach helps explain the occurrence of assaults and bodily injuries in contexts characterised by socio-economic vulnerability and interpersonal conflict. The study also adopts a public health perspective that considers violence as a multifactorial phenomenon influenced by individual, social, and environmental factors [1].

MATERIALS AND METHODS

Study design and setting

This study was grounded in a positivist research paradigm and adopted a quantitative criminological and medico-legal approach to interpersonal violence. A retrospective descriptive and analytical design was used to examine assaults and bodily injuries recorded over a twelve-year period, from 1 January 2012 to 31 December 2024. The study was conducted at the medico-legal service of the Regional Hospital of Labé, which serves as the regional referral centre for medico-judicial examinations. The service receives cases referred by judicial authorities and security services for medico-legal assessment. The retrospective design was selected to analyse longitudinal trends in interpersonal violence and to identify epidemiological, criminological, and medico-legal patterns over time. The extended study period also helped minimise the influence of short-term contextual fluctuations and allowed for a broader assessment of the role of assaults and bodily injuries within medico-legal activity. An exhaustive non-probability sampling technique was applied, whereby all eligible cases recorded during the study period were included in the analysis.

Study population

The study population consisted of all victims of assaults and bodily injuries, whether intentional or unintentional, examined at the medico-legal service upon judicial requisition between 1 January 2012 and 31 December 2024. A total of (N = 19,050) participants were included in the study. An exhaustive non-probability sampling technique was applied, whereby all eligible medico-legal files recorded during the study period were included in the analysis. Participants were recruited through judicial referrals issued by police authorities, gendarmerie services, or courts requesting medico-legal examination within the framework of criminal proceedings. Included were complete medico-legal files containing detailed descriptions of injuries and criminal total temporary incapacity for work (TTI) assessments. Excluded were cases of sexual violence, consultations without judicial requisition, and incomplete or unusable files. Restricting inclusion to judicial requisitions ensured greater procedural homogeneity, as the analysed files corresponded to situations formally integrated into the criminal justice system. However, this also implies that unreported violence or violence managed through informal mechanisms was not represented, which should be considered in the criminological interpretation of the findings.

Variables and data collection

Data were extracted from medico-legal archives using a standardised data collection form routinely employed at the medico-legal service for forensic examinations. This structured form was completed by forensic physicians during medico-legal consultations and was designed to ensure uniform and systematic recording of clinical, socio-demographic, and judicial information across cases. The form included sections relating to victims' socio-demographic characteristics (age, sex, place of residence/origin, occupation, and marital status), criminological circumstances of the events (location, relationship to the aggressor, time of occurrence, number of aggressors, and intentional or unintentional nature of the violence), injuring agents (type of instrument used), clinical findings (types and anatomical locations of injuries), and medico-legal assessment, particularly the duration of criminal total temporary

incapacity for work (TTI). The use of a standardised form contributed to data consistency, comparability, and reproducibility throughout the study period. It also enabled an integrated criminological and medico-legal interpretation of assaults and bodily injuries by examining who was exposed to violence, under what circumstances, through which mechanisms, and with what medico-legal and judicial implications.

Data analysis

Data were entered, coded, and cleaned using EpiData software in order to ensure data consistency and minimise entry errors. Double-checking procedures were applied during data entry to improve the reliability and quality of the database. Statistical analyses were subsequently performed using Epi Info version 6.04. Descriptive statistics were used to summarise the data, including frequencies, proportions, percentages, and distribution tables according to the variables analysed. Cross-tabulations were also performed where relevant to explore relationships between socio-demographic, criminological, and medico-legal variables. The results were presented in the form of tables and figures to facilitate interpretation of epidemiological and medico-legal patterns. No multivariable analysis was performed because the primary objective of the study was descriptive and exploratory, consistent with methodological approaches commonly used in retrospective criminological studies based on medico-legal archives. This descriptive approach provides a structured overview of judicialised violence over a long period and constitutes a basis for future analytical and qualitative investigations.

Data quality, operational definitions, and standardisation

The quality of an archive-based medico-legal study depends closely on file completeness, consistency in certificate writing, and stability of definitions over time. In our context, the reviewed files were based on judicial requisitions, ensuring a formal procedural framework and an official request for expertise, but not excluding variations in the precision of circumstantial information (exact location, victim–aggressor relationship, type of instrument) or in the granularity of injury descriptions. Such variations are typical in long medico-legal series and reflect changes in practice, staff turnover, workload intensity, and fluctuating expectations from requesting authorities. To reduce heterogeneity, data extraction relied on a standardised grid focusing on structurally important and frequently documented variables: sex, age, origin, socio-professional category, intentional/unintentional nature, location, victim–aggressor relationship, time, number of aggressors, instruments, types and sites of injuries, and criminal ITT. The categories were designed to be compatible with routine forensic practice and with a criminological reading (situational, relational, and territorial dimensions), consistent with the descriptive and exploratory objective.

Medico-legal definition of ITT and interpretive issues

Criminal ITT is a central indicator in medico-legal certificates in Francophone contexts **[14; Tournel, Hédouin & Gosset, 2018: 25–40]**. It does not measure only biomedical incapacity; rather, it reflects a global and temporary functional incapacity assessed with regard to the person's ordinary activities and

the expected consequences of injuries, and it often serves as a pivot for legal qualification [13]. In Romano-Germanic systems, ITT thresholds structure judicial grading and help distinguish “minor violence” from more serious forms that may lead to criminal prosecution (Soumah et al., 2019: 1–7). This centrality gives ITT a specific criminological role: it contributes to the institutional formatting of violence by transforming a social and bodily experience into a penal unit (days) capable of orienting judicial procedures. In this study, ITT was used as recorded in the medico-legal files, without retrospective recalculation. This choice respects institutional reality, since the object of analysis is precisely violence as captured and coded by the medico-legal system. However, this approach implies acknowledging possible inter-examiner variability, particularly around legal thresholds, as well as situations in which social expectations regarding “severity” may influence the expectations of victims and requesting authorities [13, 14].

Ethical Considerations

The study was conducted in accordance with the ethical principles governing health and social science research, particularly those relating to confidentiality, anonymity, respect for human dignity, and the protection of personal data. The research complied with the principles of the Declaration of Helsinki concerning research involving human data. The analysed data were extracted from archived medico-legal files and were fully anonymised prior to analysis. No identifying information was retained in the study database, and the data were used exclusively for scientific and academic purposes without any impact on the medical, legal, or judicial management of victims.Given the retrospective nature of the study and the use of archived records, informed consent was waived. Institutional authorisation to access and analyse the medico-legal archives was obtained from the medico-legal service and the relevant hospital authorities. Ethical approval was obtained from the National Ethics Committee for Health Research of Guinea under approval number **CNERS/2026/052**.

STUDY LIMITATIONS

This study has certain limitations that should be highlighted. Its retrospective nature relies on archived medico-legal files, which may contain missing, heterogeneous, or imprecise information (for example, circumstances, precise victim–aggressor relationship, or detailed instrument description). Changes in certificate-writing practices over time may also affect internal comparability across twelve years. In addition, analysis was limited to physical violence that resulted in a judicial requisition, excluding undeclared violence or violence regulated by informal mechanisms, which constitute a significant share of actual interpersonal violence. There is thus a structural selection bias: the study describes violence captured by the penal and medico-legal system, not all violence experienced in the population. The absence of multivariable analysis does not allow identification of independent risk factors associated with assaults and bodily injuries, nor quantification of the specific effect of determinants (age, sex, place, relationship to the aggressor) on severity (ITT) or injury types. Future research could include analytical approaches to better understand individual, social, and contextual determinants of physical violence in

Guinea, as well as qualitative approaches to explore norms, rationalities, and judicialization trajectories. Despite these limitations, the study's duration and large sample size represent major strengths. Prospective, multicenter studies incorporating qualitative dimensions would deepen understanding of violence trajectories and evaluate the impact of implemented prevention strategies.

Selection bias, information bias, and generalisability

Beyond the limitations already mentioned, three points deserve specific discussion. First, selection bias: our corpus does not represent all interpersonal violence, but rather violence that crossed the threshold of entry into the medico-judicial system (judicial requisition). This bias is not a secondary flaw; it is constitutive of the object studied. It implies that our results describe judicialized or "judicializable" violence, not all violence experienced in the population. This distinction is fundamental in criminology: the same social reality may be very differently visible depending on complaint rates, service availability, access costs, and institutional trust. Second, information bias: some variables (e.g., the exact instrument, precise time, detailed victim–aggressor relationship) may be incompletely or approximately reported because they depend on narratives, conditions of the aggression, and the quality of documentation. Misclassification is possible, especially for residual categories ("no relationship") or for distinguishing the victim's home, the aggressor's home, or the shared home.

Third, external validity: the study is single-centre, conducted in a regional referral centre. Observed profiles reflect local patterns of judicialisation, health service organization, and judicial circuits specific to Labé. Comparison with Conakry suggests convergences but also nuances (relative weight of family violence, place of "no relationship" assaults), indicating territorial variations that would merit multicenter investigations. Despite these reservations, the large sample size and twelve-year duration are major strengths for describing the structure of interpersonal violence as captured by medico-legal expertise.

RESULTS

Figure 1 shows the distribution of medico-legal consultations by reason over the study period, totalling 25,714 recorded acts. It highlights a marked predominance of assaults and bodily injuries, which by far constitute the main reason for recourse to medico-legal expertise. Specifically, 19,050 consultations (74%) involved physical violence in the form of assaults and bodily injuries. Conversely, all other reasons for medico-legal consultation accounted for only 6,664 cases (26%). Figure 1 thus illustrates that, throughout the study period, physical violence represented the main driver of medico-judicial expertise, making it a key actor in the daily management of interpersonal conflicts.

Figure 2 presents the distribution of assaults and bodily injuries according to whether they were intentional or unintentional during the study period. It shows an overwhelming predominance of intentional assaults and bodily injuries, accounting for 17,402 cases (91%) of all examined physical violence. In contrast, unintentional injuries totalled 1,648 cases (9%).

Figure 3 shows a socially differentiated distribution of victims examined for assaults and bodily injuries. Pupils and students constituted the most represented group (26.65%), followed by traders/merchants (20.8%) and housewives (13.67%). Other socio-professional categories were: civil servants (9.14%), seamstresses/hairdressers (12.65%), workers (7.31%), military personnel (3.68%), artisans (1.55%), farmers/herders (1.26%), and unemployed persons (3.29%).

Figure 4 presents the distribution of victims according to geographic origin. It shows a predominance of victims from urban areas, representing 11,786 cases (61.87%) of all consultations related to physical violence. Conversely, 7,264 victims (38.13%) came from peri-urban areas.

Table I presents the distribution of victims by sex and age. It shows an overrepresentation of males, who accounted for 58.77% of victims, compared with 41.23% females. This distribution indicates more frequent exposure of males to physical violence managed through medico-legal expertise during the study period. The mean age of victims was 29 years, confirming the predominance of assaults and bodily injuries among young adults. Other age groups were much less represented, reflecting a progressive decrease in the frequency of physical violence with increasing age. Table I thus highlights a victim profile dominated by young adults, predominantly male, constituting the most exposed group to interpersonal violence in the study area.

Table I : Distribution by sex and age

Variable	Category	n	%
Sex	Men	11,196	58.77
	Women	7,854	41.23
Age (years)	2 months–10 years	67	0.35
	11–20 years	2,937	15.42
	21–30 years	8,339	43.77
	31–40 years	6,052	31.77
	41–50 years	792	4.16
	51–60 years	579	3.04
	≥61 years	284	1.49
Total	—	19,050	100

Table II shows that the street was the primary location of aggression (43.35%), while homes (victim's, aggressor's, or shared) accounted for nearly half of all aggressions. The relationship to the perpetrator was predominantly extra-familial (63.68%), although intra-familial violence represented 32.25%. Aggressions occurred mainly during the daytime (07:00–15:59: 69.99%). A single perpetrator was involved in 94.39% of cases.

Table II : Contextual characteristics (place, relationship, time, number of aggressors)

Variable	Category	n	%
Place of assault	Victim's home	6,443	33.82
	Perpetrator's home	1,476	7.75
	Shared home	1,546	8.12
	Street	8,259	43.35
	Market	483	2.54
	Recreational place	824	4.33
	Place of worship	19	0.10
Relationship with perpetrator	Familial	6,143	32.25
	Extra-familial	12,132	63.68
	None	775	4.07
Time of assault	00:00–06:59	1,334	7.01
	07:00–15:59	13,334	69.99
	16:00–23:59	4,382	23.00
Number of perpetrators	Single	17,982	94.39
	Multiple	1,068	5.61

Table III presents the distribution of injuries observed among victims according to type, anatomical location, and instruments used during assaults. The analysis reveals a clear predominance of superficial or moderate injuries, mainly comprising wounds, abrasions/scratches, bruises, and contusions, which accounted for the majority of clinical findings during medico-legal examinations. In contrast, severe injuries such as fractures and dislocations were considerably less frequent. This suggests that, in most cases, the physical violence examined did not result in major osteo-articular damage, although the functional and judicial impact may remain significant.The anatomical distribution showed preferential involvement of the upper limbs and the head and neck regions. Injuries to the upper limbs may reflect defensive reactions during assaults, whereas involvement of the head and neck indicates the particular vulnerability of these areas during physical confrontations. This distribution is consistent with direct, close-range violence.With regard to the instruments used, Table III highlights a marked predominance of blunt objects, implicated in 83.47% of cases. This high proportion reflects the opportunistic nature of assaults, most often involving everyday objects or physical force itself rather than specific weapons. Overall, these findings describe an injury profile dominated by superficial to moderate lesions affecting exposed anatomical regions and resulting primarily from blunt-force violence.

Nature, anatomical location of injuries, and instruments used in assaults (N = 19,050)

Table III : Nature and anatomical location of injuries and instruments used

Variable	Category	N	%
Nature of injuries	Wounds	14,054	31.31
	Bruises (ecchymoses)	9,712	21.64
	Haematomas	673	1.50
	Abrasions (scratches)	10,045	22.38
	Contusions	9,126	20.33
	Fractures	274	0.61
	Dislocations	309	0.69
	Sprains	693	1.54
	Total injuries recorded	**44,886**	**100**
Anatomical location of injuries	Head and neck	12,082	32.75
	Thorax and abdomen	734	1.99
	Upper limbs	13,751	37.27
	Lower limbs	10,143	27.49
	Genital region	187	0.51
	Total anatomical sites recorded	**36,897**	**100**
Instruments used	Blunt object	15,901	83.47
	Sharp object	1,954	10.26
	Pointed object	449	2.36
	Blunt/Sharp object	508	2.67
	Sharp/Pointed object	238	1.25
	Total cases	**19,050**	**100**

Note: Percentages for the nature and anatomical location of injuries were calculated based on the total number of recorded injuries and anatomical sites, as multiple injuries could be observed in the same victim. Percentages for instruments used were calculated based on the total number of cases (N = 19,050).

Figure 5 presents the distribution of victims according to the duration of total temporary incapacity for work (TTI). The findings indicate a predominance of short TTI durations, with 93% of victims presenting an ITT ≤ 21 days. Conversely, a minority of cases (7%) had an ITT > 21 days, reflecting greater medico-

legal severity. Figure 5 thus underscores the central role of ITT assessment in medico-legal practice as a key tool for grading the severity of physical violence and guiding the judicial response. The observed distribution suggests a caseload predominantly composed of low- to moderate-severity violence, while also including a smaller proportion of more severe cases requiring a stronger penal response.

DISCUSSION

Frequency and the place of assaults and bodily injuries in medico-legal activity

This study shows that assaults and bodily injuries accounted for 74% of all medico-legal consultations recorded during the period (19,050/25,714). This predominance confirms that interpersonal physical violence constitutes the core of medico-judicial activity, reflecting a mass criminal caseload centred on intentional harm to bodily integrity [1, 2]. From a criminological standpoint, such a proportion cannot be reduced to a mere raw measure of violence; it also reflects the functioning of the penal system in which the medico-legal certificate and ITT play a pivotal role in case trajectories [10, 11, 12, 13]. Interpretation must integrate the concept of selective judicialization: recorded cases are those that have passed through institutional filters (seeking care, access to the service, requisition, sometimes a complaint), which suggests underreporting of violence resolved through informal mechanisms [15]. In contexts where social conciliation and family mediation remain important, many conflicts do not reach the medico-legal system. Conversely, when actors perceive an interest (proof, recognition, sanction), they mobilise the certificate more readily, increasing statistical visibility. Comparison with regional literature confirms the central role of physical aggression in medico-legal activity. In Conakry, Diallo et al. reported a proportion above 80% of physical aggressions among consultations at the medico-legal unit, indicating an even more marked centrality in an urban setting [6]. Conversely, in contexts where medico-legal missions are more diversified (accidents, sexual violence, administrative expertise), the relative share of assaults may be lower [16]. These differences illustrate that medico-legal statistics are both statistics of violence and statistics of institutional organisation [17]. Ultimately, the high frequency observed in Labé confirms the central place of assaults and bodily injuries in social and judicial conflict. It raises questions about the capacity of the penal system to sustainably absorb this mass caseload and supports prevention and mediation strategies aimed at limiting systematic penalisation of ordinary conflicts [1, 9]. The predominance of assaults and bodily injuries in medico-legal activity (74%) thus points to an issue of penal governance: how can a judicial system handle frequent, repetitive violence linked to ordinary conflicts without exhausting its resources? In mass caseloads, justice necessarily develops logics of sorting, standardisation, routinisation, and sometimes “management” rather than systematic in-depth investigation [18]. The medico-legal certificate and ITT become serve as instruments for simplification and decision-making, enabling rapid legal classification and procedural orientation. This situation is not neutral: it may lead to saturation effects, accelerated procedures, and a focus on objectifiable markers (injuries, ITT) at the expense of other dimensions (relational context, vulnerability, history of violence, psychological impact) that are nevertheless essential for understanding

proximity violence [10, 13]. Thus, high frequency does not only imply high violence; it also underscores a structural dependence on medico-legal expertise as an instrument of social regulation through criminal law [10, 11, 12, 13, 18].

Intentional violence: a predominantly deliberate violence institutionally captured

The predominance of intentional violence (91%) indicates that the violence managed is primarily deliberate, embedded in conscious conflictual interactions. It confirms the centrality of intentional violence as a mode of managing interpersonal conflicts, consistent with analyses of “ordinary” violence [1, 2]. This pattern aligns with the idea that, in certain contexts, the use of force may be socially tolerated or mobilised as a resource for dispute resolution [9]. The low proportion of unintentional injuries should be discussed in light of institutional selection: accidents (domestic, occupational, road traffic) often follow other pathways (emergency care, insurance, informal arrangements) and are assessed in a penal framework only when a judicial issue requires it [15]. Thus, medico-legal expertise mainly observes the violence that “enters” the penal system. Routine activity theory also illuminates the opportunistic dimension of intentional violence: it occurs where opportunities for confrontation are numerous and effective social control is limited [9]. National comparisons point in the same direction: in Conakry, Diallo et al. also reported a very high proportion of intentional violence [6]. These convergences suggest common national dynamics: high judicialisation of intentional violence and low penal visibility of bodily accidents. The predominance of intentional violence (91%) is partly explained by the very object of judicial requisition: the penal system primarily addresses cases where intent is alleged or suspected. However, this predominance also reflects social rationalities: in certain disputes, aggression may be perceived as a “response” to an offence, a deterrence strategy, a way to impose one’s position in a conflict, or to restore reputation [9, 13]. Violence becomes a social language rather than a mere accident of interaction. “Banalisation” does not mean general acceptance; it refers to the existence of social scenes where force is anticipated as possible and where actors know how conflicts may escalate. This anticipation may contribute to repetition of assaults and bodily injuries and helps explain the persistence of the phenomenon despite normative disapproval [9]. In this perspective, medico-legal expertise documents violence embedded in social routines, consistent with routine activity approaches: opportunities, accessibility, absence of capable guardians, and micro-situations of confrontation [8].

Socio-professional categories: differential exposure and inequalities in medico-judicial capture

The socio-professional distribution is dominated by pupils/students, traders/merchants, and housewives. This result reflects differential exposure but also differential probability of entering the medico-legal circuit. The overrepresentation of pupils/students relates to youth sociability, the age effect, and the intensity of conflictual interactions, in a context where violence may be mobilised as a resource for status and self-assertion [9, 11, 12, 13]. Conakry data showing high representation of pupils/students support this national stability [6]. Traders/merchants appear exposed to transactional

disputes, debts, and market tensions in dense public spaces. Routine activity theory accounts for these high-interaction locations and confrontation opportunities [8]. The share of housewives suggests the importance of proximity and domestic violence, consistent with the role of the home as a criminogenic setting. The low rural proportions (farmers/herders) may reflect lower exposure but also under-judicialisation or limited access to services. In this regard, medico-legal statistics are also statistics of access to rights and to proof [17, 18]. The overrepresentation of pupils/students and traders/merchants suggests that assaults and bodily injuries are closely linked to high-density interaction settings (schools, neighbourhoods, roads, markets) and to situations where disagreements frequently arise (competition, rivalries, transactions, debts, commercial disputes). Markets and everyday economic life are spaces where information circulates rapidly, reputation matters, and conflicts may be publicly exposed. In such contexts, loss of face, humiliation, or accusation can act as triggers for escalation [13]. The category of housewives points to proximity violence where economic dependency, domestic power relations, and marital and family tensions may increase the risk of aggression. Criminological interpretation must integrate that domestic violence is not “private” in the sense of harmless: it can be repetitive, cumulative, and socially underreported, implying that what is observed in medico-legal data represents only a visible fraction of domestic violence [1, 2, 10, 18]. Finally, the low rural proportions may reflect a dual phenomenon: possibly different exposure (lower interaction density, stronger informal social control) but above all a lower likelihood of entry into the medico-legal circuit due to distance, costs, and alternative regulation mechanisms. This represents an inequality of access to law and proof, a key dimension of empirical criminology in low-resource settings [17, 18].

Geographic origin: urban concentration, peri-urban diffusion, and system effects

Urban predominance (61.87%) is consistent with situational approaches: interaction density, multiple contacts, opportunities for confrontation, and sometimes a deficit of effective guardians [8]. Social disorganisation perspectives highlight the role of density, heterogeneity, and mobility in weakening social control and making violence more visible [19, 20]. However, this distribution also reflects institutional capture: better urban accessibility to health services and the judicial system makes obtaining a certificate and judicialisation more likely. The peri-urban proportion remains substantial (38.13%), suggesting diffusion of conflicts into transitional zones where rapid urbanisation, precariousness, and neighbourhood tensions may favour escalation [21]. Urban predominance must therefore be interpreted at two levels. First, regarding violence itself: urban life multiplies contacts, intensifies interactions, and increases confrontation opportunities, particularly in public spaces (streets, markets, social venues) where formal or informal guardians may be insufficient [8]. Second, there is an access effect: urban areas facilitate complaints, judicial requisitions, transport to the medico-legal service, and continuity of the medico-judicial pathway [18]. The significant peri-urban share suggests that violence is not confined to city centres. Transitional peri-urban zones, often characterised by rapid growth, precariousness, and land or neighbourhood tensions, may become particularly conflict-prone. They sometimes combine high population density with limited institutional infrastructure, which can increase conflict and weaken mediation [19, 20, 21]. These results support territorially differentiated prevention: situational

interventions in urban high-interaction areas and strengthened mediation and institutional presence in expanding peri-urban zones [8, 21].

Sex and age: classic profiles, gender norms, and a life-course reading

Male overrepresentation aligns with established regularities of interpersonal violence [1, 22]. Masculinity norms, presence in public space, and exposure to conflictual interactions contribute to explaining this configuration [8, 23, 24]. However, the female proportion (41.23%) underscores the importance of proximity violence and the need not to render female victimisation invisible, which is often shaped by access to certification and judicialisation [2, 18]. Concentration among young adults (mean age 29 years) corresponds to the age–crime curve: involvement and exposure peak in early adulthood and then decline [12, 25]. Life-course approaches frame this period as one of high relational intensity, mobility, economic constraints, and status tensions [20]. Male overrepresentation and concentration among young adults reflect robust patterns: involvement and exposure to violence peak in early adulthood and decrease thereafter [12, 25]. This dynamic corresponds to a life stage in which status competition, the search for recognition, mobility, economic activity, and group sociability are intense, increasing the likelihood of confrontation [20]. Masculinity norms may facilitate the conversion of verbal conflict into physical confrontation, especially when reputation and honour are at stake [13, 23, 24]. Nevertheless, the substantial female proportion requires highlighting the role of domestic, neighbourhood, and sometimes public-space violence. Forensic medicine captures violence sufficiently visible and/or judicialised to cross the institutional threshold; yet a portion of violence against women may remain invisible due to lack of complaint, requisition, or access, warranting interpretive caution [2, 10, 18]. In prevention terms, these findings support a dual strategy: targeted interventions addressing male youth sociability (prevention of fights, nonviolent conflict management, alcohol-related risk) and strengthened protection and support mechanisms for women victims of proximity violence [1, 2, 24].

Contexts: street and home, extra-familial and familial, daytime and dyadic violence

The street dominates (43.35%), but homes account for nearly 50%, confirming a dual centrality of public and private settings. Situational analysis and routine activity theory help explain public space as generating confrontation opportunities [8], while domestic space concentrates proximity tensions, power relations, and repeated interactions [1]. The most common extra-familial relationship (63.68%) is close to Donka (62%), but family violence is higher in Labé (32.25% vs 22%), which may indicate greater medico-legal visibility of domestic violence in this context [6]. Daytime predominance may reflect everyday-life conflicts but must be interpreted cautiously, considering service functioning effects (access, judicial circuits) [6]. The very high proportion of single aggressors confirms dyadic conflicts typical of ordinary violence. The distribution of locations (street and homes) indicates that interpersonal violence is rooted in everyday life scenes. In public space, interaction density and target exposure favour confrontation; in domestic space, relational proximity, power dynamics, and repeated interactions may generate violent

episodes [1, 8]. The predominance of extra-familial ties suggests that proximity violence is not confined to the family; it also involves neighbours, acquaintances, peers, and transactional partners—relationships where interaction is frequent but mediation may be fragile. The family share remains high, reminding that the home is a risk setting and that intra-familial violence is an important component of medico-judicial caseloads [1, 10]. Daytime occurrence may reflect conflicts embedded in daytime activities (market, informal work, mobility), but service and procedural factors must also be considered (access to documentation, service availability, circulation of requisitions) [6]. Finally, the single aggressor (94.39%) confirms a dyadic structure typical of interpersonal disputes rather than collective violence, orienting criminological understanding toward mechanisms of conflict escalation and micro-situational triggers rather than gang logics [7, 8].

Injuries and instruments: opportunistic violence, blunt force predominance, and coherence with ITT

The injury profile is dominated by superficial/moderate lesions, with a low proportion of fractures and dislocations. This corresponds to proximity violence, often impulsive, where the aim is more immediate domination than long-term disability [6, 26]. Injury sites (upper limbs, head/neck) are consistent with face-to-face confrontations and defensive mechanisms [6]. The predominance of blunt objects (83.47%) suggests opportunistic violence involving physical force or everyday objects, consistent with findings fron Conakry [6]. Differences with Sfax, where natural weapons were more frequently reported, highlight the importance of contexts, modus operandi, and institutional practices [27]. The predominance of superficial/moderate lesions and blunt instruments indicates opportunistic, often minimally premeditated violence, using available means (physical force, common objects). In this configuration, injuries are frequent but rarely extremely severe, consistent with proximity violence where the objective is not necessarily durable impairment but immediate domination in a conflict [6, 26]. Anatomical sites (head/neck, upper limbs) fit face-to-face confrontations and defensive postures. From a medico-legal perspective, such patterns also have probative value: they support plausible scenarios (direct attack, blocking, gripping), strengthening the robustness of the certificate as evidence within proceedings [13, 14]. Comparisons with other contexts (e.g., Sfax) show that instrument distributions vary according to weapon availability, local norms, and the cases referred for expertise [27]. In this series, the blunt-force predominance close to Conakry suggests a stable Guinean pattern compatible with street and domestic violence [6].

ITT: penal sorting, threshold effects, and institutional construction of severity

The concentration of ITT ≤ 21 days (93%) confirms the predominance of medico-legal severity that is often limited, coherent with superficial injuries and blunt-force mechanisms. The major criminological issue, however, is the role of ITT as a penal sorting instrument: the threshold structures legal qualification and procedural orientation in many Francophone African systems [28]. Comparison with Dakar shows concentration of ITT in lower classes and the problem of “threshold-driven certification”

around the legal cutoff [28]. This supports recommendations on harmonising assessment practices (reference standards, training, peer review) and on managing mass caseloads in criminal justice. The concentration of ITT ≤ 21 days (93%) is a central result because it directly links lived violence to penal processing. It indicates that the judicial system is predominantly confronted with cases of limited medico-legal severity but often high social and judicial sensitivity. ITT functions as a sorting tool and as a shared language between medicine and justice [13, 14, 15]. The existence of a threshold (21 days) may create adverse effects: tension around “correct” assessment, implicit pressures, disputes, and sometimes the temptation to align assessment with judicial or social expectations. Studies from Dakar highlight the concentration of ITT in lower categories and the problem of “threshold chasing” [28]. In a mass caseload context, such phenomena can intensify, making harmonisation essential: reference standards, training, internal double reading, traceability of clinical reasoning, and coherence between lesions and ITT [13, 14, 28]. From a public policy standpoint, this result invites distinguishing two levels: (i) violence prevention (conflict reduction, mediation), and (ii) prevention of penal congestion (alternative mechanisms, supervised conciliation) for less severe forms, while ensuring victim protection and procedural fairness [17].

IMPLICATIONS FOR CRIMINAL JUSTICE, PREVENTION, AND SERVICE ORGANISATION

The findings have several implications for criminal justice, violence prevention, and the organisation of medico-legal services in Guinea. First, the very high proportion of assaults and bodily injuries among consultations (74%) confirms that these offences constitute a mass criminal caseload that mobilises institutions on a daily basis. In such a context, the penal chain faces a structural dilemma: handling a high volume of cases while maintaining quality, fairness, and victim protection. Otherwise, penal responses may be dominated by flow-management logics, in which ITT and a few circumstantial elements become the main decision filters. Second, the predominance of intentional violence (91%) suggests that most cases arise from interpersonal disputes and conflicts rooted in social routines (street, market, home). This opens the way for pragmatic prevention strategies: mediation, nonviolent conflict-resolution mechanisms, interventions in high-risk locations, and reinforcement of formal/informal social control where violence concentrates. Third, spatial distribution (urban/peri-urban) indicates that prevention should be territorially tailored. Urban zones, where interaction density and confrontation opportunities are highest, require situational interventions: securing public spaces, regulating social venues, strengthening institutional presence, and targeted actions in markets and along major routes. Peri-urban areas, by contrast, require stronger mediation mechanisms and improved access to rights to prevent tensions linked to rapid urban expansion from turning into repeated violence. Fourth, the demographic profile (mean age 29 years; predominance of 21–40 years) highlights the centrality of young adults as both victims and potential actors in conflict dynamics. Prevention programs should include youth-focused interventions: anger management, prevention of group fights, reduction of risk behaviours, and promotion of nonviolent dispute resolution. These interventions should take into account masculinity norms and honour-related dynamics often associated with escalation. Fifth, the

substantial share of home-based and family violence underscores that prevention cannot be limited to public spaces. Proximity violence requires detection, protection, and support mechanisms, as well as coordination between health, justice, and social services. From a criminological viewpoint, domestic violence is often repetitive and cumulative; medico-judicial visibility may reflect an acute episode within a longer trajectory. Finally, ITT and its threshold (21 days) appear as a structuring element. When 93% of ITTs are ≤ 21 days, justice mainly faces medically moderate violence but socially and judicially sensitive events. This justifies implementing quality standards for medico-legal assessment: continuing training, internal reference frameworks, supervision, and peer-review mechanisms to reduce variability and strengthen certificate credibility.

OPERATIONAL RECOMMENDATIONS (forensic medicine + justice + prevention)

In light of these results, several recommendations can be formulated:

Strengthen standardisation of medico-legal certificates.

It is recommended to implement harmonised certificate templates including mandatory sections (context, type and location of injuries, detailed description, lesion–ITT coherence, probative elements) to improve comparability and overall file quality over time.

Provide regular training and refresher courses.

Continuing training on ITT assessment, injury description, and probative writing is essential, particularly regarding structuring thresholds. Targeted training could reduce disputes and strengthen judicial confidence.

Develop systematic health–justice coordination.

Structured dialogue frameworks between the medico-legal service, police/gendarmerie, and magistrates can improve the quality of requisitions, reduce vague requests, and enhance the medico-judicial relevance of expertise.

Target prevention on inhigh-risk places and times.

The street, markets, and certain social venues appear as key spaces. Situational interventions (institutional presence, local mediation, regulation of gatherings, lighting, surveillance) can reduce opportunities for violence.

Strengthen management of proximity violence.

The significant share of domestic violence calls for reinforced mechanisms of identification and support (referral, psychosocial support, protection) to reduce recurrence and repeated violence trajectories.

Establish routine surveillance (local observatory).

Routine use of medico-legal data as annual indicators (victim profiles, locations, instruments, ITT) can serve as a local observatory to guide prevention and adapt public policies.

RESEARCH PERSPECTIVES

This study opens several perspectives. First, analytical studies (multivariable models) could identify factors associated with ITT > 21 days, weapon use, or domestic occurrence. Second, qualitative approaches (interviews, conflict narratives, judicialization trajectories) could explore social norms of violence, escalation mechanisms, and reasons for seeking certification. Third, multicenter studies comparing several Guinean regions would help identify territorial differences, access effects, and variability in medico-legal practices.

CONCLUSION

Assaults and bodily injuries constitute the main reason for medico-legal consultation in the Labé region and illustrate the centrality of judicialized interpersonal violence in Guinea. Over twelve years, this study shows frequent violence that is mostly intentional, affecting primarily young adults, occurring in the street and at home, and most often involving a single aggressor. Injuries are mainly superficial or moderate and result mostly from blunt-force mechanisms, consistent with an ITT that is predominantly ≤ 21 days.

Beyond epidemiological description, the major interest of these findings lies in their criminological implications: they shed light on how a mass criminal caseload is captured, objectified, and sorted by the medico-legal system, particularly through ITT, which acts as a pivot for legal qualification and judicial grading. They also underscore the need for territorially tailored and differentiated prevention, combining situational interventions in public spaces, reinforcement of mediation mechanisms, and improvement of responses to proximity violence. In a resource-limited context, strengthening the quality and consistency of medico-legal certificates, as well as improving health–justice coordination, appears as an essential lever to optimise penal response and sustainably reduce interpersonal violence.

Declarations

-Ethics approval and consent to participate:
This study was approved by the *Comité National d'Éthique pour la Recherche en Santé (CNERS)* of Gamal Abdel Nasser University of Conakry in Guinea. The study was conducted in accordance with the principles of the Declaration of Helsinki.

-**Clinical trial number:** Not applicable.

-Human Ethics:
This study was approved by the *Comité National d'Éthique pour la Recherche en Santé (CNERS)* of Gamal Abdel Nasser University of Conakry in Guinea. The study was conducted in accordance with the principles of the Declaration of Helsinki. For retrospective anonymized data, the requirement for informed consent was waived by the ethics committee.

-Clinical trial registration:
Not applicable.

-Funding

This research received no external funding.

-Consent for publication

This retrospective study was based exclusively on anonymized medico-legal records collected during routine forensic practice. The manuscript does not contain any identifiable personal data, images, videos, or information that could reveal the identity of individual participants. Therefore, individual consent for publication was not required.

All data were handled confidentially and in accordance with institutional ethical standards and the principles of the Declaration of Helsinki.

Data Availability Statement

The datasets generated and/or analysed during the current study are not publicly available due to ethical, legal, and confidentiality restrictions related to medico-legal records of victims of assault and bodily injury. These records contain sensitive personal and judicial information that cannot be publicly disclosed. However, anonymized data are available from the corresponding author on reasonable request and subject to approval by the relevant institutional authorities.

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Figures

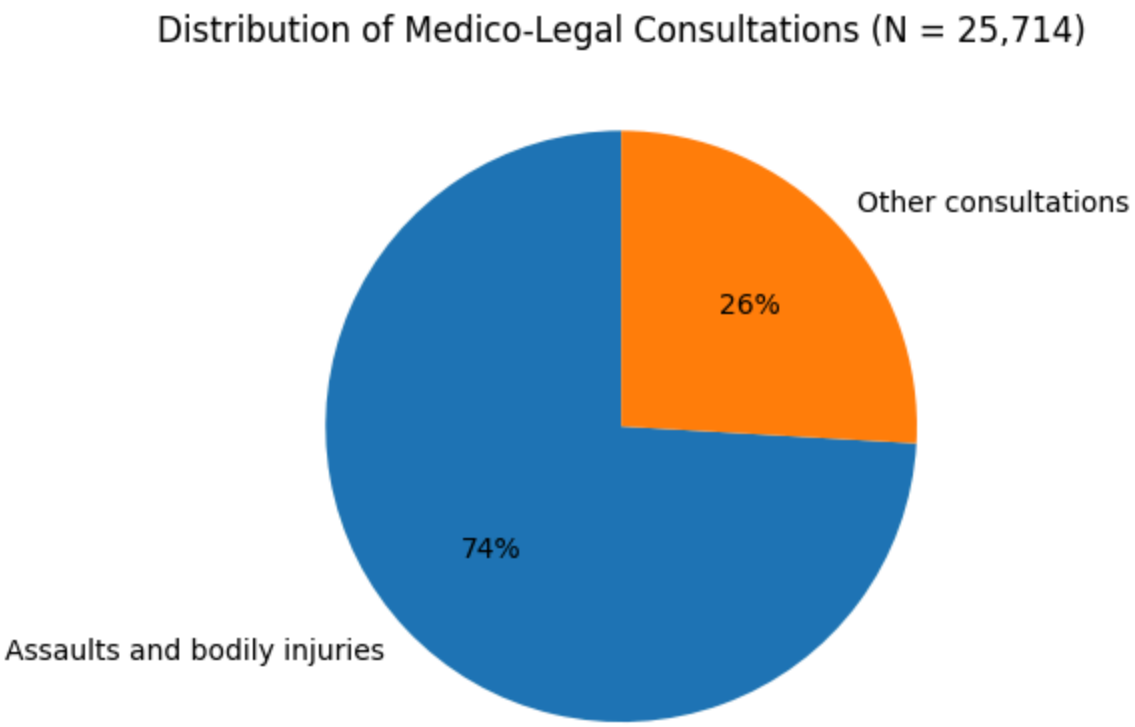


Figure 1

Frequency of assaults and bodily injuries

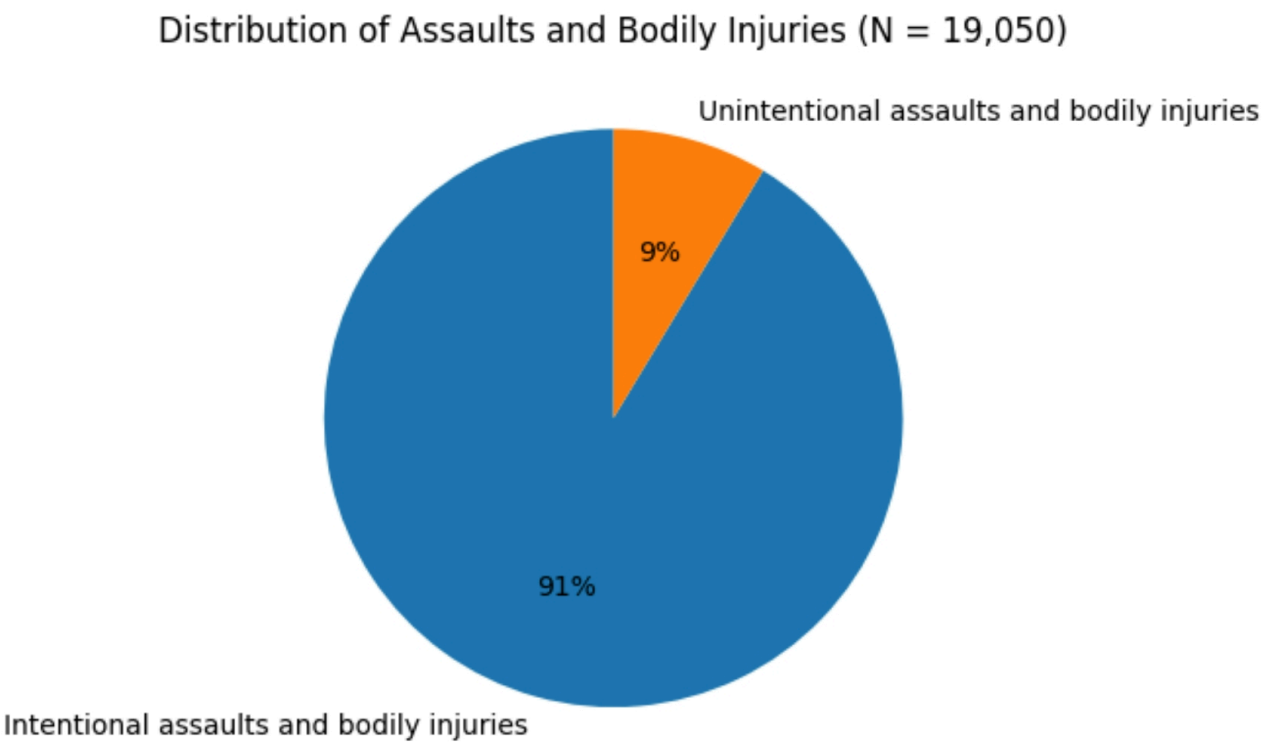


Figure 2

Distribution by circumstances (intentional / unintentional)

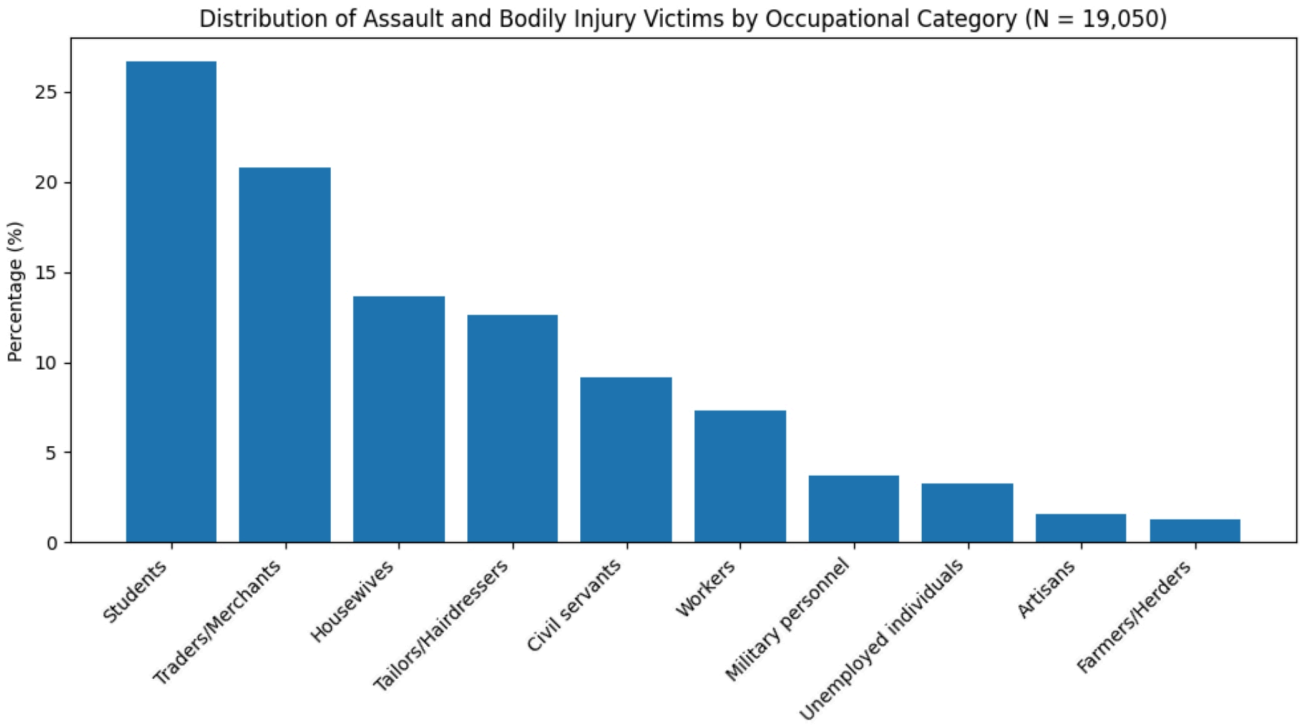


Figure 3

Distribution by socio-professional category

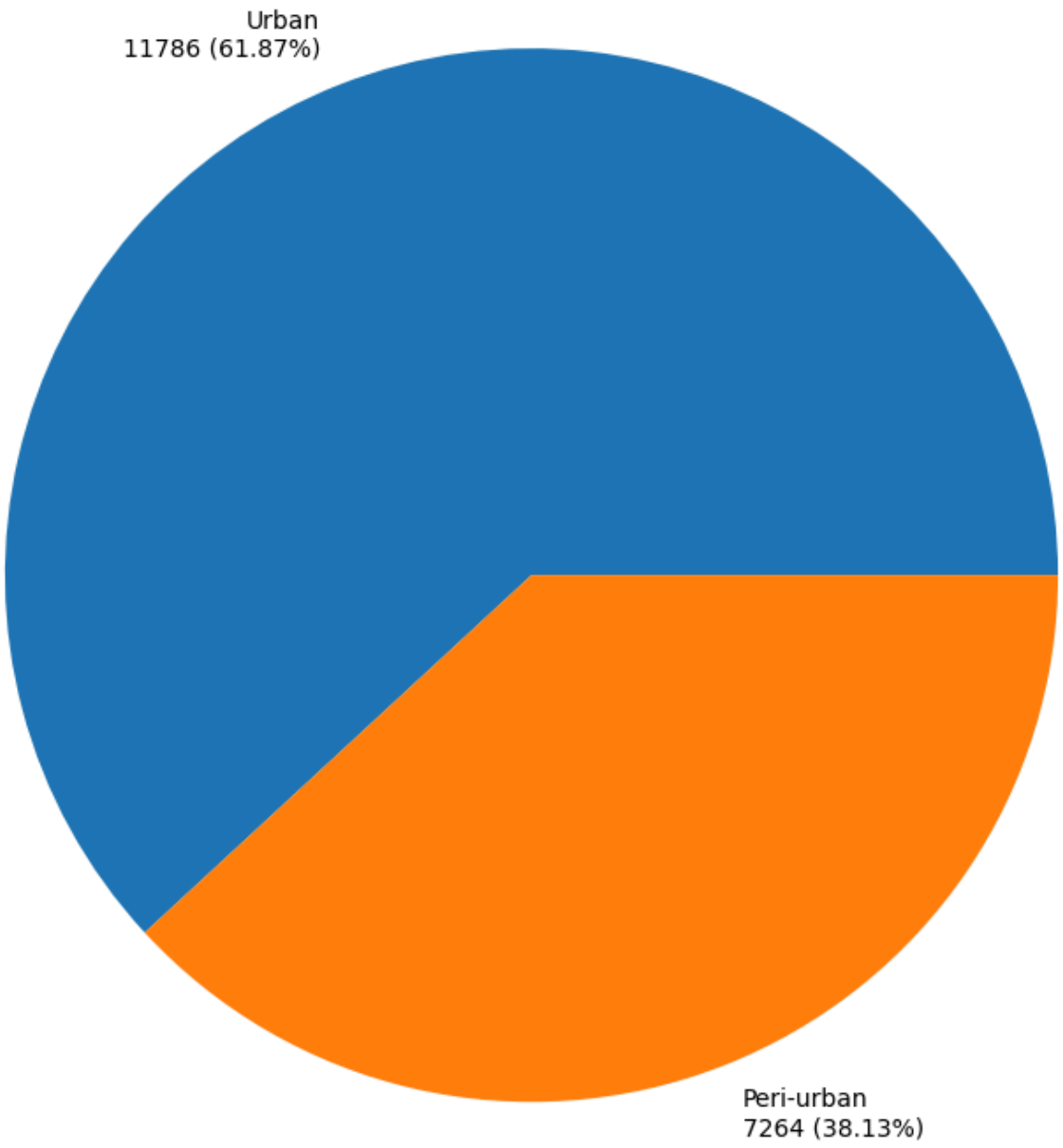


Figure 4

Distribution of victims by area of residence (urban and peri-urban)

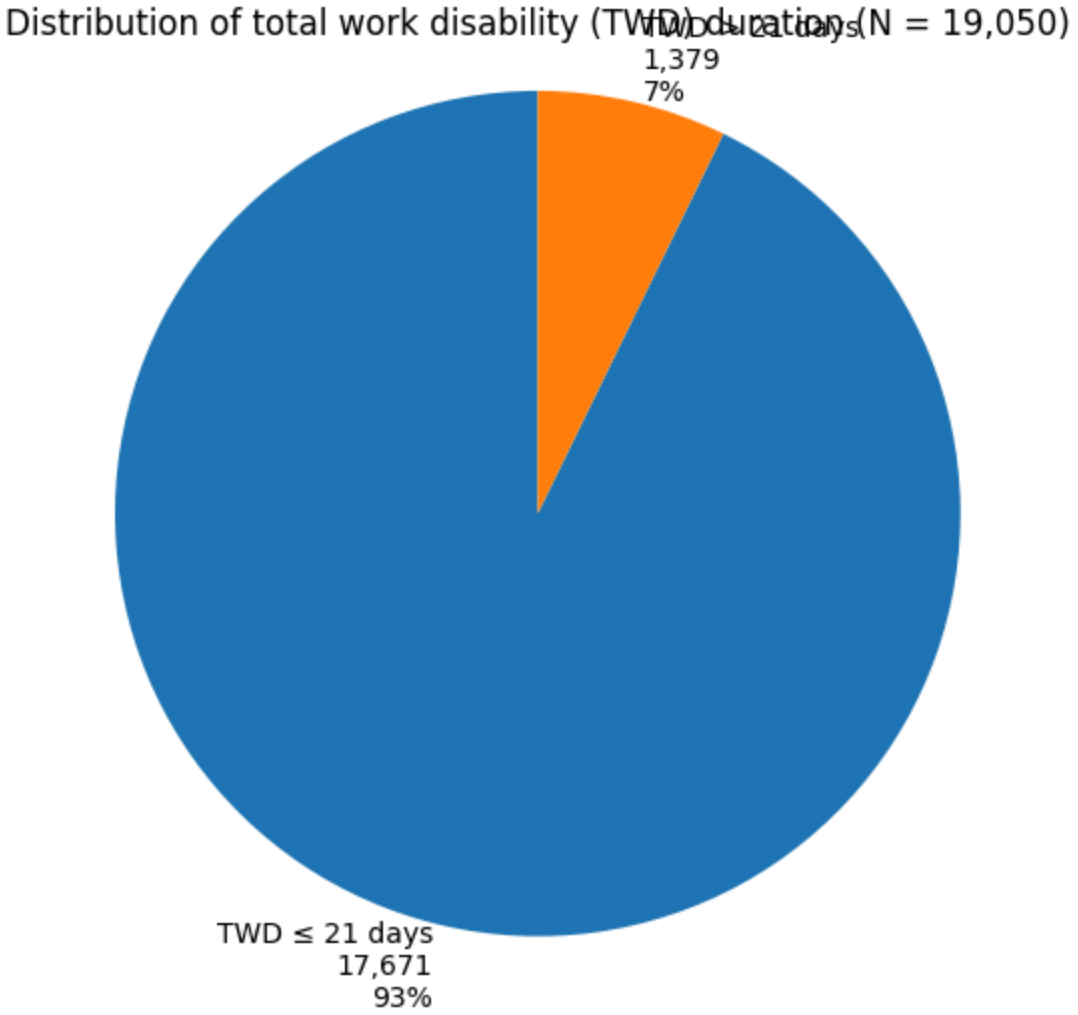


Figure 5

Distribution by total temporary incapacity for work (TTI)