



**Original article**

**Epidemiological, Clinical, and Therapeutic Aspects of Victims of Intentional Assault and Injuries at the Regional Hospital Center of Dedougou**

Aspects épidémiologiques, cliniques et thérapeutiques des victimes de coups et blessures volontaires au centre hospitalier régional de Dédougou

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**Résumé**

Introduction : La dénomination coups et blessures visent essentiellement les actes qui portent atteinte à l'intégrité physique et psychique d'un être humain. Ces actes sont dits volontaires lorsque leur auteur a eu la volonté de les commettre.

Objectif : Décrire les lésions des victimes de violences physiques par coups et blessures volontaires.

Méthodologie : Il s'est agi d'une étude observationnelle descriptive a collecté rétrospective sur trois ans. Les données sociodémographiques, cliniques, thérapeutiques des patients victimes de coups et blessures volontaires ont été analysées.

Résultats : Soixante-treize victimes ont été colligées. Le sexe masculin était prédominant (46 hommes). L'âge moyen des blessés était de 32,7 ans et ils étaient majoritairement des cultivateurs (24 cas). Ces blessures survenaient préférentiellement à

domicile (41,1%) et à l'espace publique (35,6%). Les objets contondants (56,2%) et la machette (13,7%) étaient prédominants dans la genèse des lésions. La circonstance de survenue des blessures était dominée par la rixe (53,5%). On dénombrait à l'admission 156 lésions dont 66 plaies et 22 fractures. Neuf blessés ont bénéficié d'un parage au bloc opératoire. Les complications étaient dominées par trois cas de raideurs articulaires, deux infections du site opératoire et un cas de cal vicieux du poignet. Deux cas de décès ont été notés.

Conclusion : Les CBV sont peu fréquents dans notre région. Ils surviennent au décours des agressions et rixes violentes impliquant l'usage des armes blanches. Les lésions sont parfois graves et complexes nécessitant un acte chirurgical.

Mots-clés : coups et blessures volontaires, épidémiologie, clinique et traitement.

## Abstract

**Introduction:** The term assaults and battery primarily refers to acts that harm the physical and psychological integrity of a human being. These acts are considered intentional when the perpetrator had the intent to commit them.

**Objective:** To describe the injuries sustained by victims of physical violence through intentional assaults and battery.

**Methodology:** This was a descriptive observational study with retrospective data collection over three years. Sociodemographic, clinical, and therapeutic data of patients who were victims of intentional assaults and battery were analyzed.

**Results:** Seventy-three victims were recorded. Males were predominant (46 men). The average age of the injured was 32.7 years, and they were mostly farmers (24 cases). These injuries occurred mainly at home (41.1%) and in public spaces (35.6%). Blunt objects (56.2%) and machetes (13.7%) were the main tools causing the injuries. The circumstances surrounding the occurrence of the injuries were mainly dominated by brawls (53.5%). Upon admission, 156 injuries were recorded, including 66 wounds and 22 fractures. Nine injured individuals underwent debridement in the operating room. Complications were mainly three cases of joint stiffness, two surgical site infections, and one case of malunion of the wrist. Two deaths were noted.

**Conclusion:** Intentional bodily injuries are infrequent in our region. They occur following assaults and violent brawls involving the use of bladed weapons. The injuries are sometimes severe and complex, requiring surgical intervention.

**Keywords:** intentional bodily injuries, epidemiology, clinical presentation, and treatment.

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## Introduction

Violence is a universal phenomenon frequently encountered, of variable forms and severity [1]. Its determinism is multifactorial and depends on the victim-aggressor couple. Assaults and battery essentially refer to acts that harm the physical and

psychological integrity of a human being [2]. These acts are considered intentional when the perpetrator had the intent to commit a violent act and therefore established by the competent judicial authorities. According to the World Health Organization (WHO), violence causes more than 1.6 million deaths worldwide each year [3]. The assessment of violence constitutes one of the most important medical activities not only because of its frequency but also because of its judicial repercussions. The Boucle du Mouhoun region has few data on cases of intentional assault and battery (IAB). The objective of this study was to describe the profile of victims, the circumstances of assaults, and the injury characteristics of victims of physical violence by IAB admitted to the surgery department upon judicial requisition.

## Methodology

This was a descriptive observational study with retrospective data collection over a three-year period from January 1, 2022, to December 31, 2024. Included were patients for whom a requisition was issued and the notion of Intentional Assault and Battery was established. The requisition being defined as a procedure by which a specialist, in this case a physician, is called either by a judicial authority or by an administrative authority to carry out observations or technical scientific examinations that cannot be postponed [4]. Before their inclusion in this study, written or oral consent via telephone contact of the injured was obtained. Socioprofessional, clinical, and therapeutic data were collected. Confidentiality of personal data was guaranteed through an anonymous survey form. Data were entered and processed using EPI DATA 3.1 analysis software. Descriptive statistics of the various data were analyzed. Our study has limitations, namely its retrospective nature, the absence of standardization of medical certificates, the small number of cases linked to the absence of a medico-judicial centre in the region, and the impossibility of systematic psychological follow-up of victims.

## Results

### • *Epidemiological data*

Seventy-three victims were collected, giving an annual frequency of 24.3 cases. There were 46 men and 27 women, i.e., a sex ratio of 1.7. The average age of the injured was 32.7 years +/- 12.8 with extremes of 7 and 74 years. The age group between 20 and 40 years represented 61.6% of the study population. Table I shows the distribution of victims by age group. The injured were farmers in 24 cases (33%), housewives in 13 cases (20.5%), civil servants in six cases (8.2%). Table II shows the distribution of victims according to their occupations.

These injuries took place at home in 30 patients (41.1%), in public spaces in 26 patients (35.6%), and in a drinking establishment in 9 patients (12.3%). Various weapons, often multiple in the same victim, were implicated in the genesis of the lesions. Table III shows the distribution of injured according to the type of weapon involved.

### • *Clinical, paraclinical, and therapeutic data*

The circumstances of occurrence of injuries were assault in 39 victims (53.5%) and family conflicts in 14 victims (19.2%). Figure 1 illustrates the distribution of injured according to the circumstances of occurrence.

The average time to first consultation at the CHR was 12.7 hours with extremes of one hour and 10 days. Fifty-three injured (72.6%) consulted within 48 hours following the assault. The clinical assessment on admission was normal in seven victims (9.6%) and found in 66 victims (90.4%), 156 variously associated injuries. Thirteen victims (17.8%) had at least two injuries. We counted 66 wounds (42.3%), 26 soft tissue contusion injuries (16.6%), and 24 fractures (15.4%). Figure 2 illustrates the distribution of the different injuries.

The wounds were located at the cephalic pole in 43 cases (65.1%), including 31 scalp wounds (47%) and 12 facial wounds (18.2%). We noted four cases (2.6%) of cervical wounds, two of which were complicated by tracheal transection. Limb wounds (13 cases; 19.7%) were all located in the upper

limbs. They were complicated by flexor and extensor tendon transection of the fingers in six and three cases respectively, arterial transection in three cases, nerve transection in three cases, and muscle transection in two cases. At the thoraco-abdominal level, we noted a penetrating thoracic wound complicated by pneumo-haemothorax and a penetrating abdominal wound complicated by evisceration.

Fourteen cases of craniocerebral trauma (CCT) were recorded. These were respectively one case of severe CCT, three cases of moderate CCT, and nine cases of mild CCT. The CCTs caused eight cerebral lesions including three cases of extradural haematoma, one case of acute subdural haematoma, two cases of craniocerebral wounds, and one case of oedematous-haemorrhagic contusion.

Twelve victims (16.4%) presented psychological impact in the form of anxiety (five cases), depressive state (four cases), fear (two cases), and insomnia (one case). Two cases (2.7%) of death were noted on admission. These were victims who succumbed before admission to the emergency department from haemorrhagic shock.

Thirty-eight patients (52%) were treated exclusively with medical management, and the others additionally benefited from surgery for 31 patients (42.5%) and orthopaedic treatment for 3 victim patients (4.1%). One patient left the hospital against medical advice. Surgical treatment consisted of wound debridement (Figure 3). The average time from admission of victims to the operating room was 3.6 hours with extremes of one hour and 8 days. Lesion repair consisted of tenorrhaphy in nine victims. Nerve and muscle suture was performed in three and two patients respectively. Patients with arterial transection benefited from arterial ligation. An exploratory laparotomy was performed in one patient and thoracic drainage in two patients. Six (8.2%) complications were noted. These were early postoperative complications in the form of surgical site infection (2 cases) and late complications in the form of joint stiffness (3 cases) and one malunion of the wrist. Surgical site infections were controlled under targeted antibiotic therapy after sampling and antibiogram.

**Table I: Distribution of victims by age group (N=73)**

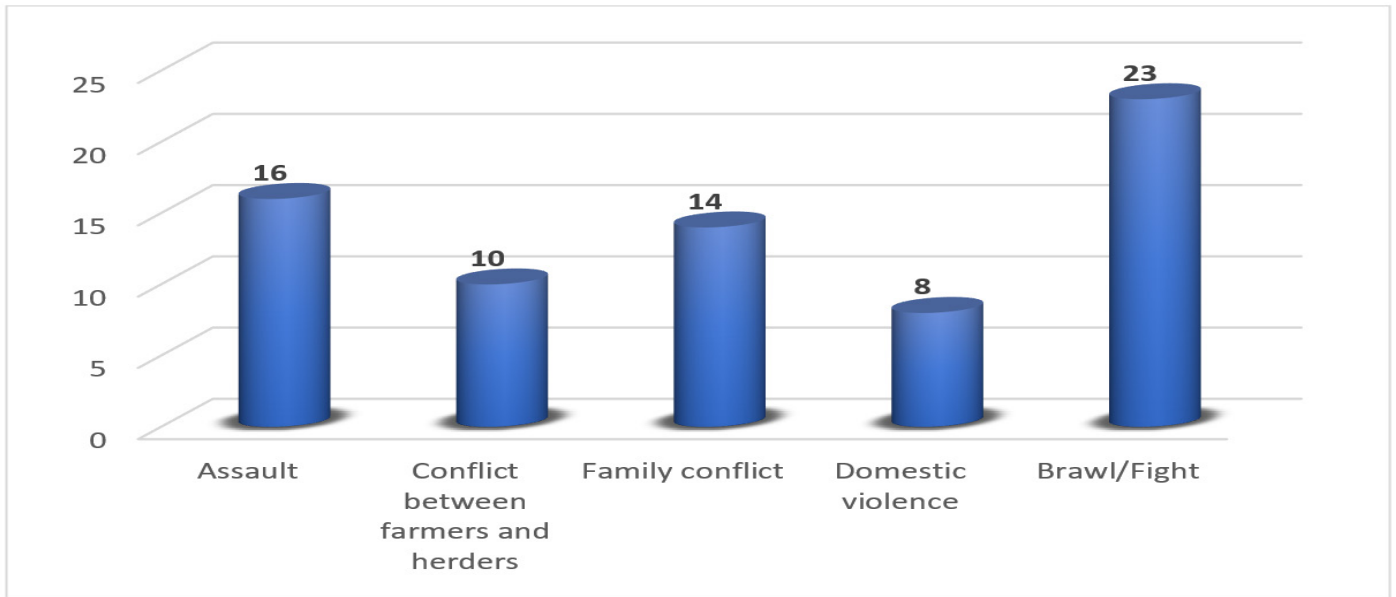
	Frequency	Percentage (%)
[0-18 years [	6	8.2
[18-28 years [	23	31.5
[28-38 years [	27	37.0
[38-48 years [	9	12.3
[58-68 years [	4	5.5
[48-58 years [	3	4.1
[68-78 years [	1	1.4
Total	73	100

**Table II: Distribution of injured according to occupation (N=73)**

	Frequency	Percentage (%)
Farmer	24	33
Housewife	13	17.8
Student/Pupil	9	12.3
Civil servant	6	8.2
Labourer	5	6.8
Mason	4	5.4
Shop employee	3	4.1
Shepherd	3	4.1
Hairdresser	3	4.1
Gold panner	1	1.4
Mechanic	1	1.4
Odd-job worker	1	1.4
Total	73	100

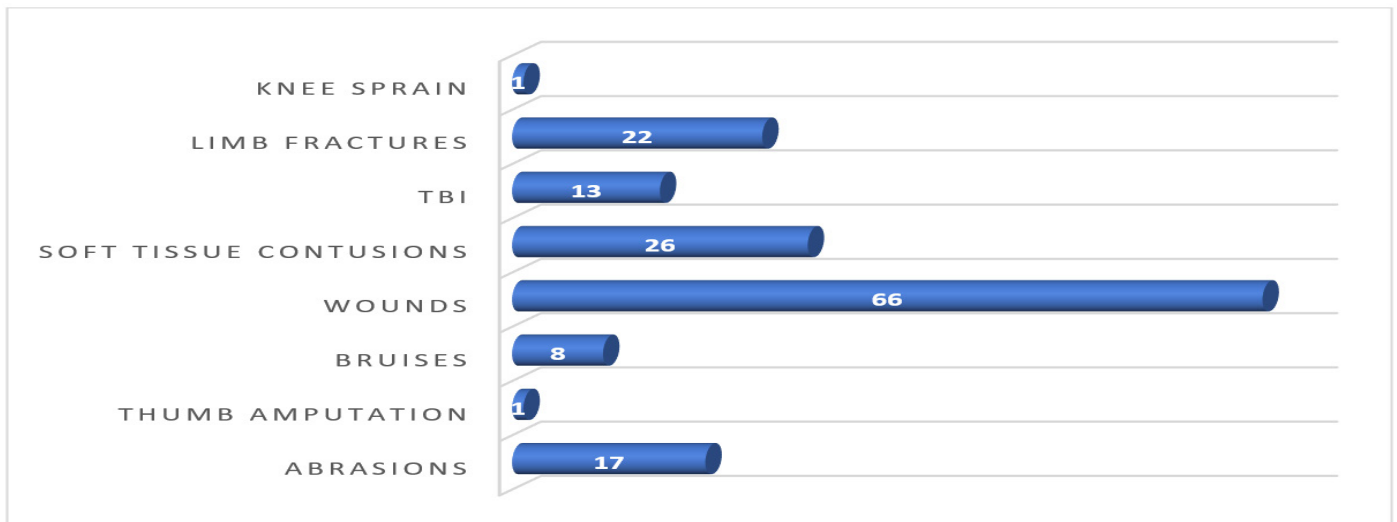
**Table III: Distribution of injured according to the type of weapon involved**

	Frequency	Percentage (%)
Blunt object	41	46
Hand	19	21.4
Knife/dagger	13	14.6
Machette	10	11.2
Hot liquid	3	3.4
Bottle shard	3	3.4
Total	89	100



\*Conf. El-Agr: herder-farmer conflict

Figure 1: Distribution of injured according to the circumstances of occurrence of injuries



\*TCE: craniocerebral trauma

Figure 2: Distribution of different injuries according to victims

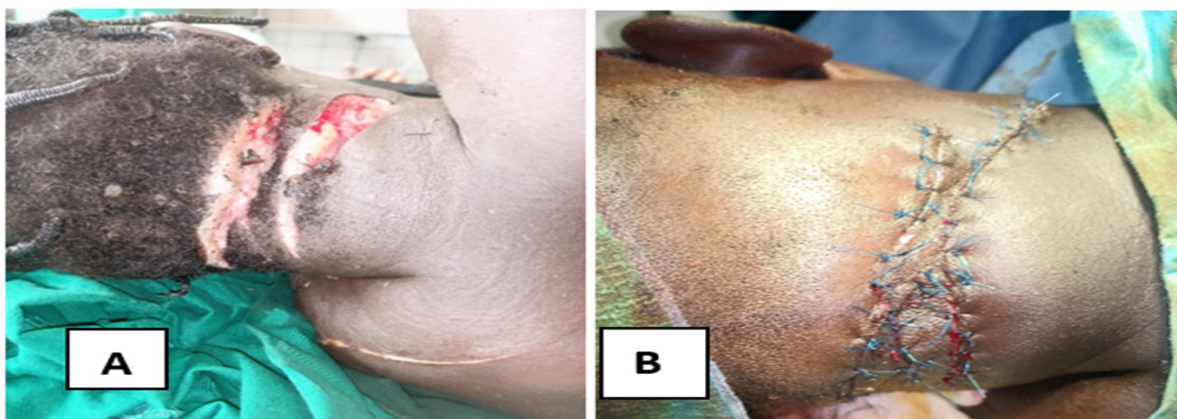


Figure 3: 19-year-old patient, victim of IAB by bladed weapon (machette) in the course of a marital conflict. She presents 2 posterior cervical wounds (image B). She underwent debridement and suture of wounds in the operating room (image B). Postoperative course was uneventful.

## Discussion

### • *Epidemiological data*

The incidence of IAB victims admitted to our department upon judicial requisition was 24.35 per year. It is lower than that of Traore et al [3] in Mali (51 cases per year), Zribi et al [1] in Tunisia (308 cases per year), and Montariol et al [5] in France (276.4 cases per year). This disparity in annual incidences is linked to the fact that our study and that of Toure were conducted in second-reference regional hospitals without a medico-judicial centre.

The victims were mostly male farmers with an average age of 32.7 years in our study. Young males are found in several African and European series [1, 3, 6, 7]. The male predominance found in violence is explained by the fact that in the context of assault, men seem much more turbulent due to the effect of testosterone and are more inclined to defend themselves, thus often suffering bodily harm [8].

The predominance of farmers and housewives in our series could be linked to the strong agricultural activity of the region, which is considered the “granary” of Burkina, and whose farmers are the majority in the general population. Students/pupils came in third place among socio-professional groups. This observation is made by Traore [3] in Mali. The development of violence in school and student environments would be secondary to pubertal spurt with the corollary of alcohol and drug consumption [6, 9].

Home and public spaces were the preferred places for IAB acts in our study, and the weapons implicated in the genesis of lesions were blunt objects, machetes, and punches. These aspects are highlighted in several African series [2, 3, 10]. Blunt weapons are most often improvised at the scene of the incident, as opposed to bladed weapons which have a premeditated character. However, in the West, so-called natural weapons (fists, feet) are the majority in different series in the order of 42 to 80%, followed by blunt objects [5, 6, 7].

The circumstances of occurrence of injuries were

assault in 53.5% of victims. This observation is noted in Traore’s series [3], which found assault in 46% of cases. The security context marked by terrorist attacks in Mali and Burkina Faso in recent decades has caused a massive displacement of rural populations to city centres, with the corollaries of increased assaults and family tensions. Soumah [2] in Dakar and Nouma [10] in Tunisia respectively found assault (25.7%) and domestic violence (23%) as the main circumstances of IAB.

### • *Clinical, paraclinical, and therapeutic data*

The average time to first consultation at the CHR was 12.7 hours and 72.6% of victims consulted within 48 hours following the incident. This delay is shorter than that of Herin [6] in France, which was 4.5 days. The long consultation delay has an influence on the clinical description of initial lesions due to the evolutionary nature of injuries.

The lesions were dominated by wounds (42.3%), parietal contusions (16.6%), limb fractures (14.1%), and ecchymoses (5.1%). These data testify to the violent nature of these assault acts in our region. The frequency of wounds by weapon varies between 5 and 13% of all traumas in France and up to 35% in the United States of America [11, 12]. Ecchymoses, parietal contusions, and dermabrasions are elementary traumatic lesions often benign and the most frequent in the literature [2, 6, 7].

The lesions were located at the cephalic pole in 65.1% and in the upper limb in 19.7%. The cephalic pole and upper limbs are uncovered zones and more exposed to traumatic lesions in case of physical violence. The implicated mechanism is most often a defence mechanism guided by the survival instinct. When this barrier is crossed, we generally find lesions at the thoraco-abdominal level. Thoraco-abdominal wounds (2 cases) were complicated by visceral involvement. The consequences of respiratory dysfunction accompanying these wounds are likely to engage the vital prognosis and/or aggravate associated lesions [13, 14, 15, 16]. Cervical wounds can jeopardize the vital prognosis in the immediate term by airway obstruction or uncontrollable haemorrhage, or

secondarily by oesophageal or laryngeal lesions, and can lead to long-term functional sequelae [17, 18].

Twelve victims (16.4%) presented psychological impact in our sample. The psychological impact of violence suffered by the victim is difficult to evaluate and must be done at a distance from the facts [19]. Twelve victims, including 8 women and 4 men, presented psychological impact. Women and victims of firearms would be more likely to present psychological repercussions [7].

The management of assault victims must be multidisciplinary. Indeed, it involves clinicians in the management of physical lesions, psychologists, and the forensic physician who has a prominent place in counselling and guiding victims for legal reparation of bodily damages. Due to the absence of a psychiatrist and psychologist in our region, no victim benefited from psychological support.

## Conclusion

IAB are not frequently encountered in our region. From this study, it emerges that the majority of IAB victims were young males living in rural areas. They occur following assaults and violent brawls involving the use of bladed weapons. The injuries are often severe and complex, requiring surgical intervention. Awareness-raising actions should be undertaken at all levels to guarantee a peaceful social climate in the region.

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**Conflict of interest :** None

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