



Incidence, case-fatality rate and clinical pattern of firearm injuries in two cities where arm owning is forbidden

Jean Bahebeck*, Rene Atangana, Emile Mboudou, Bernadette Ngo Nonga, Maurice Sosso, Eimo Malonga

University Hospital, Surgery and Specialities, BP: 25095 Messa, Yaounde, Cameroun, Cameroon

Accepted 8 November 2004

KEYWORDS

Incidence;
Fatality;
Firearm injuries;
Urban

Abstract

Objective: To review firearm injuries in five hospitals of Douala and Yaoundé, both towns of Cameroon, a Sub-Saharan African country where ownership of firearm is forbidden.

Methods: This was a retrospective investigation carried out within the period January 1998 to December 2002. Records of the mortuaries, the emergency departments, the intensive care units, the operating rooms and the surgical units were all analysed to identify any injury caused by firearm. Our gold standard was any individual with a clear diagnosis of firearm injury, as determined by a medical doctor.

Results: 286 firearm injuries were found; 1.14 cases per 100,000 per year. 66% of cases were due to civilian assaults, 20% to armed forces, 8% to hunting accidents and 6% to accidental handling. There was no case of suicide or of shooting from a relative. The type of weapon was unknown in 31% of cases, it was a hand gun in 36%, a hunting type in 21% and an assault rifle in 12%. The mean age of victims was 33 years and the male:female ratio 5.5:1. The site of injury was unknown in 2%; the head in 6%, the chest in 12%, the abdomen in 31%, the extremities in 46%, the spine in 1% and multiple in 2%. The case fatality rate was 12.58%, and the victims were mainly criminals killed by armed forces assaults; the same ratio of survivors developed late complications.

Conclusion: The incidence of firearm injuries in the two largest cities of Cameroon is five to fifty times lower than in many other towns, especially in Western countries. This may be due at least partially, to the current legislation on the ownership of firearm which is very restrictive in this country. Some efforts are however needed to reduce illegal access to weapons and to educate hunters on the safe handling of their gun.

© 2004 Published by Elsevier Ltd.

* Corresponding author. Tel.: +44 23 7953 4882
E-mail address: jbahebeck@yahoo.fr (J. Bahebeck).

Introduction

Firearm injuries are a major cause of trauma worldwide, and, in some cities, the leading cause of injury death.⁶ Legal owning of guns, male gender and youth have been reported as risk factors for this type of trauma,^{5,9} while, self infliction, assassination intention, head targeting have appeared as the main lethality factors.² However, these factors, as well as incidence and case fatality rates (CFR), which are necessary tools for prevention and management of this frequent pathology, vary widely from one country to the other and, in the same country, from city to city or one period to the other. It therefore appears necessary in any city to analyse and update the clinical epidemiology of firearm trauma, which may help prevention and management locally, and provide better exchange of experience on this sometimes-challenging pathology. Such reports from developed countries, where firearm carriage is not restricted, are commonly found in the literature. On the other hand, they are rare from low-income societies where, except during the periods of war, and thanks to the restrictive regulations on gun ownership, firearm injuries are usually less common. Our clinical experience is, however, that due to uncontrolled urbanisation, fast growing of townships and subsequent security difficulties, acceptance of the culture of violence and, last but not least, increase illegal access to firearm, gunshot trauma is more and more frequent in our hospitals.

The aim of this study was to review firearm injuries within a 5-year-period in the hospitals of the two biggest cities of Cameroon, a sub-Saharan African country.

Methods

Cameroon is a small sub-Saharan African country with a population of fifteen million inhabitants, with neither a history of war nor of any major social trouble within the last decade. The ownership of firearms is restricted to registered hunters. We undertook a retrospective analysis of firearm-related injuries treated from January 1998 through December 2002 in five acute care emergency departments (AC-ED) of Douala and Yaoundé (the Central Hospital of Yaoundé, the General Hospital of Yaoundé, the Yaoundé teaching Hospital Centre, the Laquintini Hospital of Douala, and the General Hospital of Douala), the two biggest cities of this country. In both towns, these AC-ED are the only ones that provide emergency service to trauma victims. The pre-hospital intervention system is weak and

irregular; many patients are brought by “good samaritans”, neighbours, relatives or armed forces.

To carry out this study, the records of the mortuaries, the emergency departments, the intensive care units, the operating rooms and the surgical units were all analysed in order to identify administrative notes, operative reports and clinical files of individuals observed for gunshot trauma. For each case that was identified, the above data were linked to generate the complete picture of the events. For the final selection, our gold standard was any case with a clear diagnosis of firearm injury as determined either by a general practitioner, a resident or a specialist. Some files with clear diagnosis but insufficient clinical details were considered only for incidence calculation. The documents were individually analysed with specific attention to demographic, aetiological, clinical, treatment and outcome data. These data were put together and the sample was analysed with basic statistical tests.

Results

During the 5-year-period, a total of 286 cases of firearm trauma (mean value of 57.2/year) were admitted to the five centres of both cities. The time line analysis showed that 54 of the injuries occurred in 1998, 51 in 1999, 60 in the year 2000 and, respectively, 61 and 60 in 2001 and 2002. With an estimated population of five million inhabitants in Douala and Yaoundé, this makes an average incidence of 1.14 per 100,000 per year. Twenty eight (9.79%) victims died either at the scene of the shooting or during transportation, 237 (82.86%) were hospitalised, while 21 (7.34%) were treated ambulatorily.

Aetiology

Four groups of aetiologies were identified: civilian assaults in 188 cases (65.73%), armed forces assaults

Table 1 Demographic distribution of 286 victims of firearm injuries in Douala and Yaoundé

Age	Males	Females	Total	Cumulative rates (%)
0–10	2	2	4 (1.39)	1.39
11–20	31	7	38 (13.28)	14.67
21–30	76	15	91 (31.81)	46.48
31–40	53	9	62 (21.67)	68.15
41–50	67	9	76 (26.57)	94.72
51–60	6	2	8 (2.79)	97.51
61–70	6	1	7 (2.44)	99.95
Total	241	45	286	–

Values in parentheses are in %.

Download English Version:

<https://daneshyari.com/en/article/9234130>

Download Persian Version:

<https://daneshyari.com/article/9234130>

[Daneshyari.com](https://daneshyari.com)