BRIEF REPORT

CHARACTERISTICS OF WOMEN'S DEATH BY VIOLENCE ACCORDING TO NECROPSIES CARRIED OUT IN THE CALLAO MORGUE

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ABSTRACT

The objective was to describe the characteristics of women's deaths by violence according to autopsies performed at the Callao morgue from 2016 to 2018. The forensic records of 83 women were reviewed and it was found that women's deaths by violence occurred most often in adulthood. Traffic accidents were found to be the most common cause. The most frequent location of the fatal injury was in the head segment. Most of the corpse removal took place on the public road. The district with the most cases was Callao. It is important that the authorities commit to creating, installing and following an action plan to prevent women's deaths by violence in Callao.

Keywords: Autopsy; Cause of Death; Violence; Violence against Women; Cadaver; Traffic accident; Craniocerebral Trauma; Multiple Trauma; Homicide (source: MeSH NLM).

INTRODUCTION

Violent death or death from unnatural causes is considered to be of traumatic origin (mechanical factors, physical objects, asphyxia, toxic elements, thermal factors, etc.) and/or when medico-legal etiology corresponds to a homicide, suicide or accident [1]. Globally, violent events that do not necessarily imply death are at the top of the epidemiological profile in all social strata.

The World Health Organization (WHO) defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" [2]. The WHO also reports that more than 15,000 people die in one day as a result of a violent event, such as road traffic incidents (23%), others (21%) (asphyxiation, poisonous animal bites, hypo- and hyperthermia, and natural disasters), suicide (15%), homicide (11%), falls (8%), drowning (7%), burns (6%), poisoning (6%) and war (3%) [3].

In Peru, the most common forms of violence against women are beatings, asphyxiation, use of knives, use of firearms, crushing, decapitation, burns, among others [4]. All acts of violence constitute a public health problem because they cause physical injury, disability, sequelae, diminished quality of life and finally death [5].

Legal necropsy is a medical, technical and scientific procedure that allows to establish the cause, time, causative agent, manner and mechanisms of death, as well as the identification of the deceased, which will provide evidence that contributes to the proper administration of justice. It is carried out by order of the authority in charge of the investigation (public prosecutor, judge). The autopsy is performed in medicolegal cases, such as violent deaths (unnatural, accidents, suicides and homicides), suspicious deaths (those that may be violent), sudden and

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unexpected deaths, deaths without medical assistance and deaths in prison [6].

It is important to understand the characteristics of violent death in women from a medicolegal point of view. Not only from a gender perspective, nor from the legal figure of femicide, but also in the context of a case series of violent death, in order to understand the causative agents, the most vulnerable body segments, the management of trauma, among others. This will help to identify this problem in the constitutional province of Callao.

Therefore, the objective of this research is to describe the characteristics of women's death by violence who underwent necropsy at the Callao morgue from 2016 to 2018.

KEY MESSAGES

Motivation for the study: Violent deaths of women increases and not all of them correspond to gender-focused violence, since similar characteristics may constitute accidental deaths.

Main findings: The most frequent cause of death was found to be traffic events, and the head segment was the most injured anatomical area. In most of them the public road was the primary site of death.

Implications: It is important to establish the cause of death in order to differentiate the legal implications of injuries and those linked to femicide.

THE STUDY

A case series study was conducted. The first data was obtained from the DICETA statistical report (Callao morgue software). In this system, the general data of the deceased, the requesting authority, the necropsy findings, auxiliary examinations, the cause of death and the causative agent are all registered. A total of 83 cases of women with a violent death were identified. The legal autopsies requested by the authorities in charge of the investigation were carried out between January 2016 and December 2018 in Callao morgue. Necropsy protocols of the selected cases were then reviewed. The reports of the necropsy protocols corresponding to women aged 12 years or older with a violent death were included, and those that did not have a determined cause of death or a definitive causative agent were excluded.

Demographic variables were analyzed by age groups according to the classification of the Ministry of Health's Comprehensive Care Program [7]: adolescent (12-17 years old), young (18 29 years old), adult (30 59 years old) and elderly (over 60 years old). Variables were also analyzed by Callao districts: Bellavista, Callao, Carmen de la Legua Reynoso, La Perla, La Punta, Mi Perú, and Ventanilla; by place of occurrence according to the report on the corpse removal (the forensic document drawn up by the forensic doctor in the presence of the public prosecutor included in the necropsy protocol): house, hospital, hotel, open land, river, public road; by the causative agent of the violent death: contuse agent, cervical constricting element, physical object, liquid, firearm projectile, tip or edge, transit event; and by the topographic anatomy, that is, the segment where the injury causing death was located: abdomen, head, neck, extremities, multiple (three or more body segments), thoracoabdominal and thorax.

This research is of a scientific nature, with statistical and epidemiological purposes, and the identification and reservation of cases is protected. The information found in the database corresponds to the surveillance system of the Institutional Operational Plan of the Institute of Legal Medicine and the Crime Observatory of the Public Prosecutor's Office.

The corresponding permits were obtained from the Institute of Legal Medicine and Forensic Sciences to access the database and subsequently publish the findings. The data obtained was collected in a template (data collection sheet) designed by the author, and processed in Microsoft Excel program to calculate frequencies and percentages

RESULTS

The review of Callao morgue's computer system showed that 571 autopsies were performed in 2016, from which 20 (3.5%) were women's violent deaths; 520 autopsies were performed in 2017, from which 37 (7.0 %) were women's violent deaths and it was found that 579 autopsies were performed in 2018, from which 26 (4.5 %) were women's violent deaths. A total of 83 cases were found in the 3 years. The age group of 30-59 years old was the most frequent with a total of 35 cases (42.2%) (Table 1).

The main cause for women's violent death were traffic events, that resulted in 26 deaths (31.3%), followed by contusions, which resulted in 21 deaths (25.3%). In accordance with topographic anatomy, the head was identified as the body segment whose injury directly caused the death of 27 (32.5%) women. In accordance with the report on the corpse removal, the most frequent place of occurrence for these deaths were the public roads, with 34 cases (41.0%),

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and the hospitals, 26 cases (31.3%). In terms of geographical location by district, Callao had 40 cases (48.2%); Bellavista, with 25 (30.1%); Ventanilla, with 11 (13.3%); Carmen de la Legua Reynoso, 4 (4.8%); and finally the district of La Perla, 3 (3.6%).

Table 1. Characteristics of women's violent deaths, according to autopsies performed in the Callao morgue, Peru, 2016-2018

Characteristics	n (%)
Cases per year [a]	
2017	37/579 (7.0)
2018	26/520 (4.5)
2016	20/571 (3.5)
Age group (years)	
12-17	6 (7.2)
18-29	15 (18.1)
30-59	35 (42,2)
60 and overs	27 (32,5)
Causative agent	
Traffic event	26 (31.3)
Blunt object	21 (25.3)
Firearm projectile	15 (18.1)
Cervical constrictive element	12 (14.5)
Pointed or sharp object	5 (6.0)
Physical [b]	3 (3.6)
Liquid [c]	1 (1.2)
Topographic Anatomy	
Head	27 (32.5)
Various [d]	23 (27.7)
Neck	17 (20.5)
Thorax	8 (9.6)
Thoracoabdominal	5 (6.0)
Limbs	2 (2.4)
Abdomen	1 (1.2)
Occurrence location	
Public road	34 (41.0)
Hospital	26 (31.3)
Home	19 (22.9)
Hotel	2 (2.4)
River	1 (1.2)
Waste ground	1 (1.2)

[a] The denominator is the number of necropsies per year; [b] Direct fire, electric current; [c] water, [d] three or more body segments

DISCUSSION

The largest number of cases, during the three years, occurred in 2017, almost three months after the end of the state of emergency in Callao [8]; this information shows the dynamic state of violence and its relationship to death.

The most frequent age group was 30-59 years old; which correlates with international investigations of violent deaths in general, with age groups ranging from 18 to 44 years old [9], from 15 to 34 years old [10], from 20 to 40 years old [11] and with what is reported by the Public Ministry's Office at the national level [12].

According to this study, transit events were the main direct cause of death, which coincides with the research carried out in Colombia during 1997-2003 [13], and also correlates with the results of a study in Tijuana (Mexico), where 55% of women died because they were hit by a car [14]. This differs from what was reported in Argentina, where transit events were the second most frequent cause of death [15]. This information varies between countries such as Argentina, Brazil and Colombia, the latter showing an exponential increase in this same cause of death [16].

The second most frequent cause of violent death found was injury by blunt object. This coincides with what Arias, et al. described in a study on violent deaths in the region of Callao [17] and is related to what Serfaty, *et al.* found in a study carried out in Argentina that reports violent deaths in adolescents and young adults [15]. Other injuries were caused by projectiles from firearms. This finding confirms their illegal presence in the streets, which has been described by Meneses [18] in Mexico and by Arias, et al. in the Callao region [17]. It has also been reported by González, *et al.* in a Mexican investigation where firearms were reported [19]. In a Colombian study, violent deaths with trauma were caused by projectiles from a firearm, contusions, and stab wounds [20].

During the external and internal examination of the corpse, the head segment was identified as the one with the highest frequency of injury. Similar evidence was found in Mexico in an investigation of violent deaths from firearm projectiles [21]. When reviewing the corpse removal report, it was found that the place of occurrence of these deaths were primary scenarios (where death occurred) and secondary scenarios (where the injury did not occur, but death happened), among them the public road, followed by hospitals.

Between 2014 and 2015, 486 reports of violent death necropsies were reviewed at the Institute of Forensic Medicine in Cuiabá, Brazil. They found that 68.1% of the deaths were people between 20 and 49 years old, information which correlates with data found in Callao. It was also identified that 64.4% of the deaths occurred in public roads, relevant data

similar to data obtained in this research. It is described that the most frequent cause of death (74.4%) was traumatic brain injury and hypovolemic shock.

Despite multiple attempts to reduce violence, such as emergency states declared on several occasions by the Peruvian Government, Callao still is a province where citizen security efforts must be redoubled, as reflected in the findings of this study. Similar results have been described in a study conducted with data from 2003 to 2012 in the same province [17].

The strengths of the study include working at the institutional headquarters in charge of the necropsies and having experience in forensics. Among the limitations of this study, it must be considered that cases without a definitive diagnosis were not included, neither were deaths that occurred in Callao but were transferred to the Central Morgue of Lima due to police or prosecutorial jurisdiction.

In conclusion, from the 83 cases of women's violent death, most of them occurred to adults; traffic events were the most frequent causal agents, most of the fatal injuries were located in the head segment; most cases occurred in the public roads and, finally, Callao had the highest number of cases among all districts evaluated. This is the reason why, national authorities should participate creating means to manage integrated public policies; and relay on local authorities, including the fiscal and medico-legal sectors; in order to create, install and follow a plan of action to prevent violence, including a schedule for judicial, educational, health and social welfare activities.

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