Prevalence of violent deaths in a semi-rural area of Veracruz, Mexico

Original Article

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SUMMARY

Introduction. Violent deaths have increased in the world; it is important to carry out epidemiological studies to know the behavior of violent deaths in a specific population, together with the related sociodemographic factors.

Material and Methods: We reviewed the records of individuals killed by violent means in District X, which includes the municipalities of Altotonga and Jalacingo in the period January-December 2004, making an analysis of the demographic characteristics and related factors.

Results: 72 corpses were included, of which 84.7% were male with a predominance of age of 20 to 40 years (38.8%); the highest number of violent deaths occurred in the months of June and December (15.28% each), weekend days (94.4%) and individuals from the municipality of Altotonga (41.6%). 83.3% of violent deaths were classified as homicide, with individuals aged 21 to 40 years (57.1%), especially by firearm projectile.

Conclusion: The prevalence and behavior of violent deaths in district X is different from that reported in the world literature, probably associated with socio-cultural and economic differences; this type of study is useful for the development of primary and secondary prevention strategies in vulnerable municipalities.

Keywords: Violent death, homicide, suicide, rural community

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INTRODUCTION

Violence has been a companion of humanity through the centuries; it has acquired such importance that in 1996 the World Health Assembly declared it a public health problem (WHO, 2002). Violence is defined as the use of physical force or psychic or moral coercion by an individual or group, which results in damage, destruction, limitations and denial of any of the rights established to people (Yunes, 1994). The social production of this event includes numerous causes, for example: socioeconomic, political, cultural, religious, ethnic, gender, age, etcetera. To understand the phenomenon of violent deaths such as suicide and homicide, we must see it as the consequence of an aggressive act provoked by causes for which the subject ends up exercising violence on himself or others intentionally (Block, 1999).

Violence is one of the main causes of death in the population aged between 15 and 44 years, and is responsible for 14% of deaths among the male population and 7% among women (Waiselisz, 2008). On any given day, on this planet, 1424 people die in acts of homicide, almost one person per minute; however, a person commits suicide every 40 seconds (WHO, 2002). Injuries and violence in the world produce more than 5 million deaths per year, that is, 9% of world mortality or, what is the same, as many deaths as HIV, malaria and tuberculosis together (Miethe, 2004). In all the reports that the World Health Organization has made about the problem of violence resulting in death, it states that 8 of the 15 leading causes of death in the group of 15 to 29 years of age are related to violent acts: suicides, homicides, traumatisms related to traffic, drownings, burns, war injuries, poisonings and falls (Nuñez, 2007).

It is of great interest to understand the process of violence in all its facets (political, economic, cultural, religious, gender, etc.), its distribution according to the population groups affected (men, children, women, elderly, etc.), the agents that produce them (physical, chemical, biological, mechanical, etc.) and the nature of the damage produced to the human body (Briard, 1973, Huerta, 1999).

Homicides have become one of the most frequent forms of expression of violence in Mexico and other countries in recent years, where assumptions have been made about the causes that have caused it, such as the growth and widespread poverty, as well as geographical distribution (rural and urban) and cultural differences (Vargas, 2000; Polk, 1994). Urban violence combines and reinforces impoverishment and inequality; to this is added the easy availability of weapons, alcohol, drugs, impunity, as well as organized crime enlisting young people (as assassins, drug dealers, criminal networks, etc.) (Campo, 2005, Quiroz, 1970).

It is evident that there are different ways of classifying and distinguishing between different types of homicidal events (Thoinot, 1986). Both state agencies and academics have constructed different categories to distinguish between, for example, the type of attack (eg, execution vs. attack), victims (eg, women vs. men, children vs. adult population) or the spatial contexts in which the homicide is located (Eg: domestic violence vs. Street fighting) (De Leo, 1991). The causes of the homicide are
also an element of distinction between the violent deaths that occur in Mexico. Among the most documented are, for example, murder by brawl between men, by robbery or by dispute (Silva, 1999).

The deficiency of the judicial system, in some cases, has resulted in a series of phenomena or reactions ranging from the indifference of the citizen to denounce and actively participate in the investigation of an act qualified as a crime, to the point of taking justice for its own hand. This can be conceived as the social response to the lack of an effective judicial system by the State or the bodies in charge of it (Gisberg, 2005).

Every year, thousands of people around the world suffer injuries or lose their lives because of violence; this situation is also present in the Judicial District X, which encompasses the Municipalities of Altotonga, Atzalan and Jalacingo, Veracruz, where the violence rates are above the average of the neighboring municipalities, which is why this study was carried out. retrospectively, in order to characterize the type of violent deaths and determine the variables present in these. Homicides caused by firearms constitute the main cause of violent death.

The study of homicides in the region of District X of Veracruz has a great relevance because it allows us to know the environmental variables of the homicidal event, its evolution and its varied circumstances in the context in which they are developed; with this, a diagnosis of its incidence can be obtained over time. The study of the incidence of homicide has a social and medical-forensic relevance, since the criminal act generates a great social rejection as an indicator of public safety; its prevention has top priority in the policies of both state and federal governments.

**METHODS**

This is an observational, retrospective and descriptive study conducted in the facilities of the municipal amphitheater in Altotonga, Veracruz and the offices of the Integral Justice Unit of District X, located in the municipality of Jalacingo, Veracruz. The files of cadavers that have died due to violent means in the period January-December 2014, including a total of 72 files, were selected.

In a database the sociodemographic variables and the forensic medical information obtained after the legal medical autopsy in cases of violent death were recorded, including the identification data of the deceased (date of death, age and sex), description or external examination of the corpse, legal medical considerations where the etiology of death (homicidal or suicidal) and mechanism of death is established. Among the mechanisms of death were included firearm projectiles, mechanical asphyxiation, anoxia by submersion, stab wounds and vehicular accidents.

The statistical analysis was descriptive for qualitative and quantitative variables, for determining prevalence and related factors.
RESULTS

We included the files of all individuals who died of violent etiology in the municipalities of Altotonga and Jalacingo, belonging to the health district X; a total of 72 bodies were included, which correspond to 58% of the corpses reviewed in said municipality during the period January-December 2014, regardless of the cause of death. The distribution of the death etiology of the individuals included in the study is shown in Figure 1.

![Figure 1. Distribution of cases according to etiology of violent deaths](image)

Of the individuals included, 38.8% (n = 28) were between 20 and 40 years of age, being the predominant age group; 84.7% of the sample were male (n = 61); there was a greater number of violent deaths in the months of June and December (15.28% each), a pattern that was maintained when carrying out a breakdown by sex of the individuals. As expected, 94.4% of violent deaths occurred between Friday and Sunday, especially in males. 41.6% of the individuals included came from the municipality of Altotonga, followed by Atzalan and Jalacingo.

Of the violent deaths, 83.3% were classified as homicide, of which 34.3% corresponded to the age group of 21 to 30 years, followed by the group of 31 to 40 years (22.8%), in contrast to suicide, in the that the highest prevalence was in individuals between 41 and 50 years of age (Figure 2).
Regarding the type of weapon used, firearm projectile deaths had a higher incidence than other mechanisms, especially in individuals between 21 and 30 years of age and on weekends (figure 3).

Figure 3. Distribution by age according to the type of weapon used (n = 72)

DISCUSSION

The highest rates of violent deaths in the world are recorded in the countries of Eastern Europe and the lowest in Latin America and some countries in Asia (O.M.S 2002). Violent deaths are one of the leading causes of death between 15 and 44 years and affects 14% of the male population and 7% of the female population. 9% of the world mortality is caused by violent deaths (and the injuries derived from it), which generates as many deaths as HIV, malaria and tuberculosis together (O.M.S 2003).

Violent death rates also vary according to the income of the countries. In low-income countries, they are more than twice as high (32.1 deaths per 100,000 inhabitants) as those in high-income countries (14.4 per 100,000 inhabitants) (Gregory, 1997). The rate of violent deaths in the world is 28.8
cases per 100,000 inhabitants. Of all the violent deaths in the world, approximately 50% were due to suicides, 30% due to homicides and 20% due to armed conflicts (O.M.S 2002). Of the violent deaths that occurred in District X in the study months (suicide and homicidal deaths), 16.7% were suicides and 83.3% were homicides, which is why it shows a great difference in the data obtained worldwide.

From the results obtained in the present study we can extract some important points: more than half of the deaths were violent, being 4.3 times more frequent in men; weekends and summer months were the most prevalent; of every 10 violent deaths, 5 were homicides, especially in the municipalities of Altotonga and Atzalan; of the homicides by projectile of firearm, the preponderant age was between 21 and 30 years, while the suicides were especially between 40 and 50 years of age; as a mechanism of death, in the homicides the use of firearms prevailed, while suicides were dominated by mechanical asphyxiation and firearms in men and by mechanical poisonings and asphyxia in women.

From the results obtained in this study it can be seen that the statistics and prevalence of violent deaths have certain distinctive features in relation to that reported in the world literature; these are peculiar characteristics of the population studied, which must be taken into consideration to determine the epidemiology of violent deaths; it is evident that this will allow us to develop adequate measures for the detection of vulnerable groups, the carrying out of awareness campaigns and the prevention of crime, in cases where this is appropriate.

Epidemiological studies serve as a basis for conducting experimental and intervention studies to determine whether the corrective measures implemented by the State are reflected in a change in violent mortality rates in municipalities with a high rural predominance. This will allow establishing secondary and tertiary prevention measures that are reflected in the quality of life of the population residing in the studied sites, as well as in a population resident in municipalities with similar sociodemographic characteristics in other parts of the country.

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