

Understanding the uneven distribution of the incidence of homicide in Latin America

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Background Throughout the final years of the twentieth century and into the beginning of the twenty-first, violence has been one of the main public health issues in Latin America, a region which has some of the highest mortality rates due to violence in the world. However, there seems to be an uneven geographical distribution of such instances.

Methods We reviewed epidemiological data on violence globally and in Latin America, and here, we discuss differences between the Latin American countries in the context of a sociological framework as well as from a public health perspective.

Results Our results indicate marked differences by country in terms of rates of violence. Countries such as Argentina, Chile, Costa Rica, and Uruguay, have low violence mortality rates; Peru, Nicaragua, Ecuador, Dominican Republic, Panama, and Paraguay have moderate rates, and Brazil, Mexico, Colombia, El Salvador, Honduras and Venezuela have high to extremely high mortality rates. Factors related to violence include social inequalities, lack of employment opportunities, urban segregation, a culture of masculinity, local drug markets, and the availability of firearms and widespread use of alcohol.

Conclusion The observed homicide variability between Latin American countries can be explained largely by differences in the countries' social contexts and political models. In those countries where homicide rates are extremely high, governments should review their current policies and take preventive actions. Fortunately increasingly nowadays there are promising advancements in that direction.

Keywords Violence, public health, Latin America, prevention

Introduction

Historically, until the 1970's interpersonal violence was studied more from the perspective of criminology, policing, and legal disciplines. While the social causes of violence had also been studied since the early twentieth century, such as in the French movement of the 'Milieu Social',¹ its focus was more on individual

and reactive perspectives with emphasis on approaches from psychiatry and the sociology of deviant behaviours applied to criminological and policing strategies. In the early 1960s, the first publication calling for the study of violence using epidemiologic methods was written by a Colombian epidemiologist, Professor Héctor Abad Gómez, who promoted a more widespread use of surveillance systems and epidemiologic methods to study violence in society.² This publication paralleled the development of a public health approach to studying unintentional injuries which was largely developed by Dr William Haddon Jr.³ In subsequent years, the

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principles of public health were more strongly applied to studying violence and these efforts were consolidated in the three following decades.

Between the 1970s and 1980s, and paired with a steep rise in homicide rates in some Latin American countries, the study of violence grew by further focusing on social rather than individual problems. The public health approach strengthened the concept of prevention through the study of risk factors associated with violence, both from an individual perspective and as a population as a whole.⁴ From a sociological perspective, the high rates of violence made it impossible for social researchers to accept Durkheim's⁵ idea that delinquency and social transgressions exist in all societies as a norm. The sheer magnitude of the problem between the 1980s and 1990s contradicted this statement. With the development of the public health approach to studying violence came the involvement of new agencies in this field. In Latin America, the study of violence initially focused on the development of reliable information systems, at that time non-existent or fragmented, and of poor quality. In the 1990s the development of these systems and further research on violence was guided in part by collaborative work between city governments, academic institutions, and agencies such as the Pan-American Health Organization, the U.S. Center for Disease Control and Prevention, and later by the Inter-American Development Bank, World Bank and the World Health Organization. Efforts towards the development and improvement of violence and injury surveillance systems continue to date and have yielded technical guidelines^{6,7} as well as more reliable information, and allowed for the evaluation of preventive measures and selected policies aimed at curbing violence. The purpose of this paper is to review the instances of homicidal violence in Latin America in relation both to the global context and by making comparisons between countries of the region, as well as providing ideas that highlight the social aspects of violence and its prevention in a wider public health context.

Methods

We reviewed several public databases that contain information about violent deaths in the world and, more specifically, in Latin America. Here, we present data by country where it was available, and by magnitude of violence-related mortality rates. Data are presented in comparison with other regions of the world as well as with Latin American countries. In addition, we cross-tabulated information on country-specific violence mortality rates with corresponding poverty rates, measures of inequality, and urban concentration of population.

We further present differences in violence-related mortality rates according to sex and age, where data were available. We then discuss these findings within a sociological framework and highlight selected

successful interventions and evaluations of policies in different countries.

Results

Global violent death rates

According to the World Report on Violence and Health⁸ there were approximately 1.6 million violent deaths globally in 2000. These deaths include interpersonal violence, self-inflicted, and collective violence (war). Interpersonal violence, the majority of which were homicides, accounted for about a third of these deaths (rate 8.8 per 100,000 population) and were more than those caused by armed conflicts (rate 5.2 per 100,000 pop.). While the region of Sub-Saharan Africa reported higher rates than the region of the Americas (22.2 per 100,000 pop. vs. 19.3 per 100,000 pop.), once high income countries are eliminated and observations are focused more among middle- and low-income countries in the Americas (all Latin American countries), the rates due to homicide become the highest in the world (rate 27.5 per 100,000 pop.), over three times greater than those for the European Region, almost 4 times greater than rates reported by the Eastern Mediterranean Region, close to 5 times the rates of South-East Asia, and 8 times greater than homicide rates reported by the Western Pacific Region. Differences in magnitude of homicide rates also apply to comparisons between high-income and middle- and low-income countries, the latter about 3.5 times greater than the former (2.9 per 100,000 pop. vs. 10.1 per 100,000 pop.). This specific grouping implies differences beyond variation in income, because societies also display specific institutional, cultural, and behavioural characteristics that increase the overall risk of victimisation among their populations. Also noticeable in Latin America is the fact that homicide rates are much higher than suicide rates (27.7 per 100,000 pop. vs. 6.3 per 100,000 pop.), a reverse relationship from that which occurs in the rest of the world as a group (8.8 per 100,000 pop. vs. 14.5 per 100,000 pop. respectively).

Homicide in Latin America

Homicide rates in Latin America are not homogeneous. Remarkable differences exist between countries that have low rates of homicide (i.e. Uruguay, Costa Rica, and Chile) versus countries with very high rates of homicide (Colombia, El Salvador, and Venezuela) (Table 1).

The relationship between urban population, poverty levels, and the incidence of homicide is still unclear. Countries that report the highest rates of homicide tend to be countries with high proportions of urban population and high rates of poverty (Colombia, El Salvador, Honduras, Venezuela, and Brazil). Among those which are highly urbanized but with less poverty (Uruguay, Chile, Costa Rica) homicide rates tend to

Table 1 Comparison of the distribution of homicide rates per 100 000 population by Latin American countries to global rates in 2000

Category of violence	Rate of homicide per 100 000 population	Countries
Low rates	Lower than the global rate of 8.8 per 100,000 population	Argentina, Chile, Costa Rica, Uruguay
<i>Global injury rate: 8.8 per 100,000 population</i>		
Medium rates	Up to two times higher than global rates (8.8 to 17.6 per 100,000 pop.)	Peru, Nicaragua, Ecuador, Dominican Republic, Mexico, Panama, Paraguay
High rates	2 to 3 times the global rates (17.6 to 26.4 per 100,000 pop.)	Brazil
Very high rates	Over 3 times the global rates (>26.4 per 100,000 pop.)	Colombia, El Salvador, Venezuela, Honduras

Source: WHO, 2002⁸ and PAHO health Indicators in the Americas: Basic indicators.⁹

Table 2 Distribution of violence by urban population, poverty, inequality; homicide rates per 100,000 population in selected Latin American countries from 2000 to 2007

Country grouping	Country	Percentage of poor population	Percentage of urban population	Index of inequality (Gini coefficient)	Homicide rates per 100,000 population
Low poverty and high urbanisation	Uruguay	9.7	91.9	0.45	4.4
	Chile	13.9	86.6	0.52	3.0
	Costa Rica	18.1	62.6	0.48	7.7*
High poverty and low urbanisation	Paraguay	55.0	58.5	0.54	12.6
	Nicaragua	63.8	57.0	0.57	12.5*
	Honduras	59.4	47.8	0.59	42.9*
Medium to high poverty and high urbanisation	Brazil	29.9	83.4	0.60	23.0
	Mexico	26.8	76.5	0.51	15.9
	Venezuela	47.1	92.8	0.44	37.0†
	Colombia	45.4	76.6	0.58	61.6

Sources: Poverty urbanisation and inequality data obtained from CEPAL¹⁰ and homicide rates obtained from WHO.⁸

*Data on homicides obtained from OCAVI.¹¹

†Data on homicides obtained from PROVEA.¹²

be lower. The high rates of urbanisation and poverty can also be associated with social inequalities commonly measured by the Gini Coefficient (Table 2.) Extremely high GINI coefficients appear to be associated with high homicide rates in Latin America and countries with the lowest GINI coefficients have low homicide rates. Regional comparisons between Latin America and other parts of the world confirm these differences. The Latin American region overall has, on average, the highest GINI coefficient in the world. A few countries outside of Latin America with similar coefficients (i.e. South Africa), tend to have similar levels of violence.

Characteristics of victims

Most victims of homicide in Latin America are young males of lower socio-economic levels. This pattern remains true, independent of the overall homicide

rate of the country. As homicide rates increase, the disparity between sexes becomes more apparent as shown in Table 3.

Young populations are at particularly high risk of homicide, and young males between the ages of 15 to 24 years are most at risk. Furthermore, in Latin America most homicides are actually committed by young men. While the demographic structure of the population in Latin America is young, this predominant homicide pattern favouring younger age groups is also replicated in high-income countries where the population tends to be older. The fact that the highest proportion of the population in Latin America belongs to younger age groups further exacerbates the economic and social problems of violence and may well contribute to the high homicide rate. Furthermore, compared with countries with similar population structures outside Latin America, homicide rates are

higher. Within the region, there are still varying proportions of deaths caused by homicide in young males (Table 4).

Table 3 Homicide Rates per 100 000 population and male to female homicide ratio in selected Latin American Countries, 2002

Country	Male homicide rates	Female homicide rates	Ratio of male to female homicide
Argentina	8.1	1.5	5.4:1
Brazil	42.5	4.1	10.4:1
Chile	5.4	0.8	6.8:1
Colombia	116.8	9.0	13.0:1
Costa Rica	9.3	1.4	6.6:1
Cuba	9.6	2.7	3.6:1
Ecuador	28.2	2.5	11.3:1
El Salvador	108.4	8.4	12.9:1
Mexico	29.6	3.1	9.5:1
Panama	19.8	2.0	10:1
Paraguay	23.4	2.2	10.6:1
Uruguay	7.1	1.9	3.7:1
Venezuela	29.7	2.3	12.9:1

Source: WHO, 2002⁸ and PAHO⁹.

Table 4 Proportion of homicide deaths among males aged 15–24 years in countries where homicide is one of the three main causes of death for males

Rank of violence as cause of death	Country	Year estimates	Proportion of all homicide deaths that fall on males 15–24 (%)
First cause of death	Colombia	1999–2001	66.3
	Brazil	2000–2002	48.3
	El Salvador	2001–2003	46.4
	Puerto Rico	2000–2002	45.8
	Venezuela	2000–2003	38.8
	Guatemala	2001–2003	32.3
	Paraguay	2001–2003	30.7
	Panama	2001–2003	28.5
	Ecuador	2001–2003	24.7
	Argentina	2001	18.4
	Nicaragua	2000–2002	18.3
	Mexico	2001–2002	16.8
Second cause of death	Cuba	2001–2003	13.8
	Costa Rica	2001–2003	13.7
Third cause of death	Chile	2001–2003	18.1
	Dominican Republic	2000–2002	11.9
	Uruguay	1999–2001	10.1

Source: PAHO.⁹

Temporal trends

Temporal trends indicate wide variations in homicide rates in Latin America. Strong efforts to control violence have been successful in reducing the magnitude of the problem. The development of multi-institutional efforts and the evaluation of strategies to control violence in large urban centres have shown benefits as depicted in Figures 1 and 2. These efforts have been mostly developed in Colombian cities (Bogotá and Medellín) and in São Paulo, Brazil, though local efforts in the latter have not affected the overall country rates.

Non-fatal interpersonal violence

In addition to the characteristics displayed by victims of fatal violence, other surveys have indicated that non-fatal violence affects all social strata but tends to be more prevalent among lower socio-economic levels.¹³ Studies of non-fatal violence in Latin America are scarcer overall but, as other literature indicates, involvement in non-fatal violence is associated with increased risks of exposure to fatal events.^{14,15}

The costs to society

The overall effects of homicide on society far exceed individual consequences and pose considerable costs on the country's economy and its development.

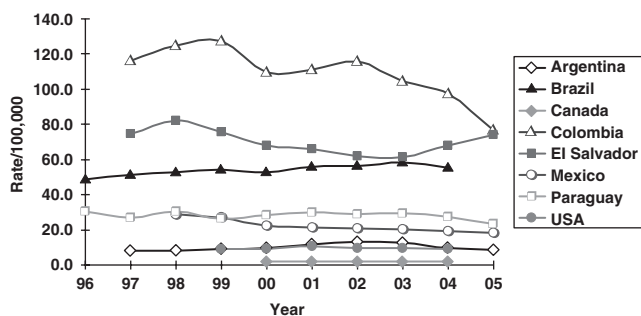


Figure 1 Age-adjusted male homicide trends per 100 000 population in selected countries of the Americas
Source: PAHO.⁹

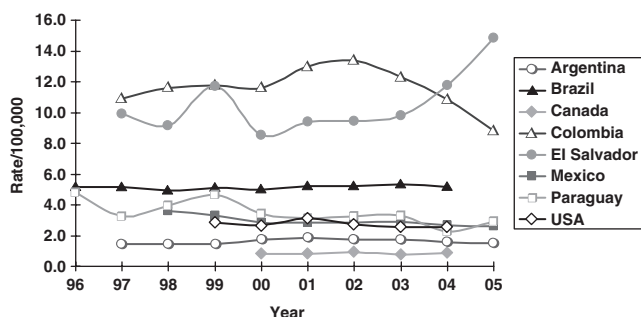


Figure 2 Age-adjusted female homicide trends per 100 000 population in selected countries of the Americas
Source: PAHO.⁹

According to data from the United Nations Development Program (UNDP)¹⁶ homicidal violence has a direct impact on healthcare costs, other institutional costs, private insurance costs, and material losses, among other categories. The costs of violence as a proportion of the gross domestic product (GDP) vary by country. Estimates suggest that for Peru and Brazil it is 1.4% of the GDP, for Mexico 3.6%, for El Salvador 4.9%, for Colombia 6.4%, for Venezuela 6.6%, and for Guatemala 6.7%.

Discussion

A model for understanding violence in Latin America

To better approach and interpret violence, several models have been developed and are aimed at organising in some way the multiple factors that influence the occurrence of violence. A common model adopted by public health practitioners to understand violence is Bronfenbrenner's socio-ecological model originally proposed in the 1970s to understand human development and behaviour.¹⁷ Other models have been used focusing on social capital,¹⁸ economic models,¹⁹ criminological models,²⁰ and social models.²¹ A formal sociological model²² is presented here and aims to establish relationships between different

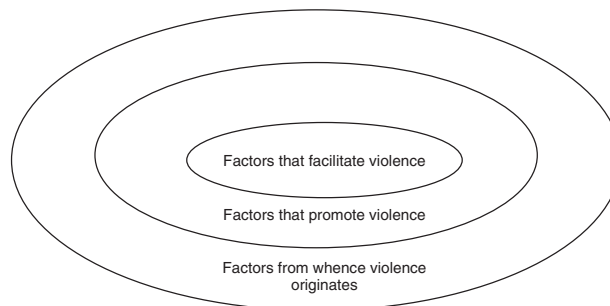


Figure 3 Sociological framework of violence levels²²

levels (similar to the socio-ecological model) but is defined as originating, promoting, and facilitating levels that incorporate material, situational, and cultural factors without focusing on the individual *per se*, but rather on the circumstances or context surrounding the person.

To better understand this sociological model, the *originating* level can be understood as the causal factors for violence which mostly refer to societal and cultural characteristics. The *promoting* factors are the second level, and are related to the material conditions in which people exist. At the lowest level, the *facilitating* factors contribute to the increased occurrence of violence or to its lethality, without being actual causes. The facilitating factors are imbedded within the level of promoting factors which are in turn imbedded within the larger, more macro originating factors, thus establishing an inclusive model that links all levels.

Factors from whence violence originates are mostly related to the overall social conditions of Latin American countries which are characterised by very high levels of inequality.^{23,24} Other prevailing characteristics are increases in poverty and youth unemployment. These factors add to the loss of traditional mechanisms of social control, in particular, those led by families and religious beliefs. Furthermore, young populations with higher expectations are provided with fewer opportunities to thrive in their social environment. These situations are more common in countries where inequality is greater and not in countries with higher overall levels of poverty such as Bolivia and Nicaragua. In areas where wealth and extreme poverty cohabit, violence tends to occur more frequently. Examples of this are found in urban areas of Brazil, Mexico, Venezuela, and Colombia where such conditions are further exacerbated by marked increases in poor urban populations.²⁵

Unemployment among young people has also increased. In 1995 there were 7.2 million unemployed young people in Latin America. These numbers increased to 9.5 million in 2005. The youth unemployment rate is 16.6%; twice as much as the overall regional average. One in 2 of the total unemployed are young and the ratio of youth to adult unemployment rate is 2.8:1.²⁶ This situation is worsened by the lack of orientation, mentoring, and institutional support aimed

at addressing youth behaviour and establishing positive social norms.

Families have also been affected and now seem to have less influence on individuals. The percentage of women who did not work in two-parent families decreased from 46.2% in 1990 to 36.2% in 2002.²⁷ This increased number of women going out to work has not been accompanied by compensatory social support mechanisms for families and children.

Religious institutions and, in particular, the Catholic Church have lost some of their social control, especially in urban settings. The process of secularisation in Latin America has been widespread and religious norms have been replaced by civil codes. Likewise, in this region, a large process of democratisation of expectations has occurred. This means that individuals, no matter of what origin, desire and strive towards owning similar material goods. Naturally, the capacity to satisfy these needs differs greatly between individuals who are wealthy compared to those who are poor. The latter 35% of youth who are under the poverty line (earning daily less than USD \$2) have less capacity to acquire material things by legal means.²⁶ These factors constitute important causes of violence in Latin American societies.

Factors that promote the occurrence of violence can be grouped into four categories: the specific structure of the built environment in cities, the culture of masculinity, drug markets, and inefficient judicial systems that foster impunity. Violence in Latin America is concentrated in urban areas where, because of higher population density and unplanned or poorly planned development, zones of exclusion are quickly created. Within these zones characterised by poor connectivity to other urban areas, topographic difficulties, and poor access to social services, alternative mechanisms of social control through gangs or subversive groups develop easily.^{28–30}

As previously shown, there are marked gender differences in involvement in violence. This can be explained partially by the culture of masculinity that forces men to confront others when challenged. The perception generally prevails that the avoidance of confrontation is more associated with females. Studies on youth violence in Venezuela show the importance for males of “earning” respect in front of others. A common mechanism to achieve this is through acts of violence.^{31,32}

A third promoting factor is the drug market. In several urban areas in Brazil and Colombia, but also beyond Latin America, the search for new markets and competition for other markets has been linked to illegal drug commerce.³³ In Latin America, these markets are also associated with illegal gun markets by weapon-producing countries, thus linking some of the promoting factors with the facilitating factors. A fourth factor, the judicial system, is frequently characterised by inefficient responses and a high degree of impunity. Data from the DESEPAZ surveillance system in Cali,

Colombia³⁴ collects adequate information on victims of homicide but lacks over 90% of vital information on perpetrators. Impunity has a further deleterious effect on violence as perpetrators know they are unlikely to be punished. These deficiencies are compounded by the fact that, even if the majority of perpetrators were caught by the police, there does not exist sufficient space or resources to keep them in penitentiaries. Overpopulation in these centres is widespread.

Finally, factors that facilitate violence are related to social norms that promote alcohol consumption and trends such as the carrying of firearms. Alcohol consumption and the presence of alcohol vendors has been linked to violence.³⁵ Legislation has been passed in some urban settings aimed at restricting hours of alcohol consumption. These measures have been linked to a reduction in the incidence of violence following the passing of these laws.

The carrying of firearms has also been linked to increased fatal violence in Latin America. However, restrictions to carrying firearms in cities such as Cali and Bogotá, in periods with high rates of homicide, have proved effective.³⁶ Firearms increase the lethality of violence. According to the Small Arms Survey, Latin America has the greatest proportion of firearm-related fatalities in the world.³⁷

Conclusions

Homicide rates in Latin America are unevenly distributed. This uneven distribution is not only geographical, but also appears in different population sub-groups and can be explained by the existence of diverse social, political, and cultural contexts between and within countries. In those countries where homicide rates are extremely high, governments should review current policies and identify what is effective and what is not. This could contribute towards identifying effective preventive actions to reduce homicide. Fortunately, there are current initiatives in the region that have focused on changing facilitating, or promoting factors, and are aiming to change originating factors of violence.

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