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Comparing the Patterns and Trends of Homicide Mortality in Mexico and Colombia from 2000 to 2015 (Differences and Similarities)

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Abstract

Background: Violence is a public health problem worldwide that affects many countries. Colombia has long had an armed conflict, and Mexico, in recent years, has presented a critical situation associated with drug trafficking.

Objective: Analyze and compare patterns and trends of mortality between Colombia and Mexico, 2000-2015.

Methods: Comparative longitudinal study that used data provided by the national entities of both countries. Analyze the causes related to violent mortality. A comparative analysis was made by country, year, age groups, causes and sex. Multivariate analysis was done, with the country as a dependent variable adjusted by sex, age groups and causes.

Findings: There were 576,994 homicides: 55.6% in Colombia: The main causes of death were firearms (Colombia 82% and Mexico 62%); strangulation was major in Mexico (7.5%) compared to Colombia (1.5%). In 2000, the risk of violent mortality was six times higher in Colombia; in 2015, it was reduced to 1.5 times. In Mexico, between 2006 and 2011 there was an increase of up to 150% in mortality due to this cause. The most affected were men, in productive age, by firearms and by sharp weapons.

Conclusions and policy implications: The increase in violent mortality in Mexico has been related to the fight against different forms of drug trafficking and groups outside the law; in this country, homicides suggest more suffering. In Colombia, it seems that measures such as the restriction on the carrying of weapons, state security policies since 2002 generated declines in violent mortality.

Both countries need to professionalize their police forces even more, they must work to diminish the circles of impunity, corruption, weaknesses of the justice system, lack of authority, and strengthen the presence of the state in the regions.

Keywords: Mortality; Homicide; Colombia; México

Introduction

In the last years, violence and its consequences have obtained major acknowledgment as a topic that generates bigger preoccupation and action in international and regional level. Homicides are the iceberg in this deep and extensive issue. Moreover, it is needed to add other violent facts where there are no fatal outcomes, which causes physical or mental damages (temporal or permanent disabilities) to the victims, to their member families, for example, robberies, assaults, abuses, physical violation, kidnapping, harassment, threats, and highlighted in recent times, the issue of enforced disappearances [1,2].

In 2010, the Americas Region contributed 31% of violent deaths worldwide, near to 144,000 people. The homicide rate per 100,000 populations in all regions increased to 15.6, which represents more than double the world average [3-5]. The countries with the biggest homicides rates in recent years have been Honduras, with a rate above 80 deaths per 100.000 population; Salvador with 67 deaths per 100.000 population; Venezuela with 50 deaths per 100.000 population; Colombia has had a similar rate as in the past decade. Among México, Brazil and Colombia has generated in average 74.000 homicides each year: 11,000 in México, 23,000 in Colombia and 40,000 in Brazil [6-8].

The proportion of homicides in the region, for all ages, show that Brazil had 56% of incidence, while Argentina had 1% of all

cases. In-between 2000 to 2009, the homicides rates for young people between 10 to 29 years were up with respect to the general population. In Brazil, they increased 56%, in Colombia 49% and in México 41%. In this group of countries, the risk of death by homicide had increased to almost 50% [4,5,9].

Colombia and Mexico have common characteristics that have been strengths for their social and economic development. Nevertheless, they have also been determinants for the generation of this problem: the presence of two oceans has allowed both sides to export and import illicit drugs. In both countries there is a strong problem of corruption of its ruling parties, confidence in institutions is low [9]. The perception of security is also low [10] assaults, robberies, fights, intolerance and the lack of peaceful resolution of conflicts are present circumstances in cities such as Mexico City, Guadalajara, Monterrey, Bogotá, Cali and Medellín [11-13].

The term violence contains a network of highly complex social relations for which different definitions have been given from different areas of knowledge; however, in the present work we address only that what has been termed as manifest violence, that affects the life or physical integrity of individuals and groups, so that their manifestations are quantifiable; in it the deaths as homicides are registered. In the previous mentioned countries there is sufficient evidence to document this problem by comparing the differences and/or similarities between the two countries that share the category of being dangerous countries in the region.

Based on the above, in this comparative analysis, it tries to pose what has been called the visible part of violence, and that is one in which is presented as a direct, tangible fact that affects the life or physical integrity of individuals or groups so that their manifestations become quantifiable (homicide, suicide, rape, among others). We are aware that this vision leaves out the violence whose causality is directly identified in the structural conditions of society and its consequences cannot be attributed to specific subjects nor can their impact be easily identified. In the world report on violence, this phenomenon is made explicit by pointing out the impossibility of calculating the cost of human affliction and pain, both almost invisible and hardly measurable. In this category violence that is hidden in workplaces is not included even in medical and social institutions responsible for caring for people [1]. Based on the previous description, the objective of this article is to analyze and compare mortality patterns for homicides between two Latin American countries: Colombia and Mexico from 2000 to 2015.

Methodology

Study design

A longitudinal comparative study of mortality by homicidal violence between Colombia and Mexico analyzed from 2000 to 2015. We used databases of both countries: for Colombia, the records from the National Department of Statistics (DANE); [14] for Mexico records from the General Direction of

Epidemiology of the Federal Ministry of Health, concentrated in the National Health Information System (SINAIS) [15]. Cause records were extracted from events classified as violent deaths with the codes of the International Classification of Diseases in its tenth version (ICD 10), grouped as follows (**Table 1**).

Table 1: Death mechanism according to the International Classification of Diseases. X version.

Sl. no	Death mechanism	Code ICD
1	Strikes without weapons/rape	Y04 a Y05
2	Poisoning	X85 a X90
3	Hanging/Strangulation	X91 a X92
4	Firearm	X93 a X98
5	Sharp weapon	X99 a Y00
6	Sharp weapon	Y06 a Y07
7	Other causes	Y01 a Y03, Y08 a Y09

Processing of information

The variables analyzed for both countries were: country (Colombia, Mexico), year (2000/2015), age, sex (male, female), death mechanism (**Table 1**) and entity of occurrence of the death (in Colombia, departments and in Mexico, federal states). Age was grouped generating five-year groups (0 to 4, 5 to 9, 10 to 14, 15 to 24, 25 to 34, 35 to 49, 50 to 64, 65 to 74, and 75 and more). Moreover, age it was divided in less than 10, 10 to 19, 20 to 49, 50 to 59 and up 70 years old. Specific rates were calculated with the population projections reported by the National Population Council for Mexico [16] and by Dane [17] for Colombia. All rates are reported per 100,000 populations.

Analysis of information

A descriptive and trend comparative analysis was carried out by country, year, age groups, sex and geographical region of occurrence of death. Proportion and confidence intervals were obtained (95% CI). The specific mortality rate was calculated according to entity of occurrence of death between the first year and the last year of the period of study. The behaviour of mortality rate was estimated, and moreover, the average rate was calculated for each age group for the study period.

The standardized mortality rates were estimated by country and year of death occurrence, using the direct method of standardization with 95% CI. The population of WHO was used as reference. With this estimation, based on 2000 findings, the risk was established for each country in several mortality categories such as: very low (below 5th percentile), low (between 5th and 25th percentile), medium (between 25th and 50th percentile), high medium (between 50th and 75th percentile), very high (above 95th percentile). These results were geo-referenced in maps. ArgGIS for the geo-referencing was used.

A multivariate analysis was carried out, with logistic regression, anterograde step to step. Country that was used as dependent variable (0=México, 1=Colombia), and as independent variables were used sex (0=female, 1=male), the age variable was re-categorized in the following way: 0=2000/2006, 1=2007/2015. Age variable was worked as a group variable in the previous described groups. The death mechanism variable was handled categorical as described in **Table 1**, leaving as reference the group blows without weapons/rape. The indicators were analyzed with 95% con CI and significant differences with P values less than 0.05 were taken. All statistical analyzes were performed, using the statistical package Stata version 13.2.

Ethical issues

This work received the approval of the Institute of Public Health of Javeriana University in the Project "After the evidence of the increase in violent mortality in México: Analysis of homicides".

Results

Between 2000 and 2015, they were 576,998 deaths by homicides in both countries, 55.6% occurred in Colombia.

Colombia

In Colombia, a decreased trend in mortality rate by homicides was observed, in average 20,057 deaths-years and 55 deaths-day. This behaviour changed, they had 87 deaths-days in 2002 to 34 deaths-day in 2015, and it was a descent to about 157%. This decrease was greater in the deaths that occurred in men, with 6.5 deaths less per year, mainly between 20-24 years old, where the decrease it was 15.5 deaths-year.

Analysis by territorial entities: departments (in Colombia) and municipalities, it showed that mortality proportion by homicides was more frequent in those areas with higher poblational density. Antioquia (with 20.7% of all deaths in study period) and Valley of Cauca (18.5%); both departments have cities very permeated by drug cartels: Medellín and Cali, respectively. Between 2002 and 2015 mortality standardized rates in 90.9% of all entities decreased (**Figure 1**).

In 2000, the departments with higher proportion of mortality were Putumayo, Guaviare and Caquetá. They are located in the Amazonic region, Antioquia, North's Santander, Caldas and Risaralda; they are located in the Andina region. Valley of Cauca is located in the Pacific region. Between 2000 and 2015, several entities in different areas of the country showed a decrease in the proportion of mortality by homicides, such as Guania (87.1%), Antioquia (81%) and Guaviare (79.6%). Nevertheless, they were three entities which increased these proportions: San Andrés (118%), Vichada (78.8%) y Amazonas (5.8%) (**Figure 2**).

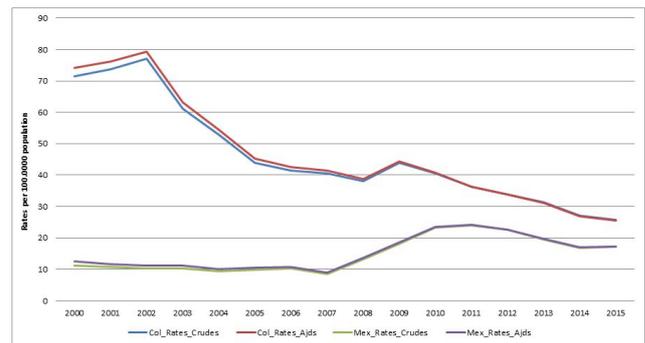


Figure 1: Comparative mortality by homicide between Colombia and Mexico.

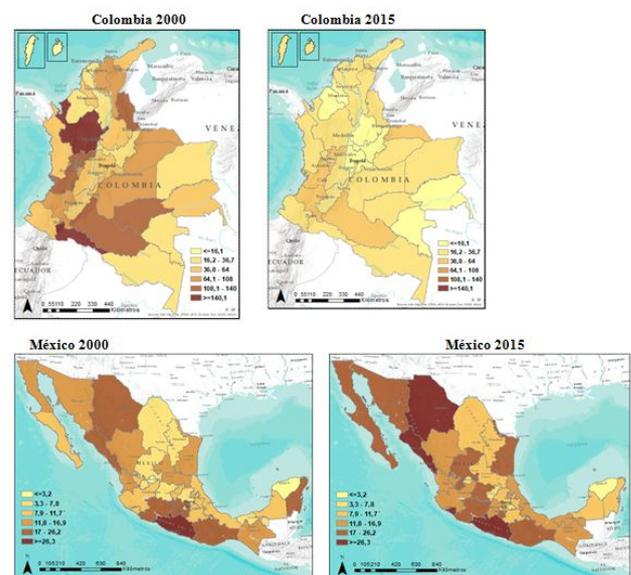


Figure 2: Behaviour of standardized mortality rates by homicides in Colombia and México 2000-2015.

México

In México, the homicides trend in the study period, had increased with an average of 44 deaths-days, but with important changes itself. In 2002, 28 deaths-days occurred, whereas in 2015, they were 57 deaths-days. That situation generated an increase of 105.8%. The average increase was 0.8 deaths-years. It started in 2008, and affected more men with 1,5 death-year and the most affected group was 25-29 years old (**Figure 1**).

In the Mexican republic, there were increases higher than 100% in Mortality Standardized Rate (**Figure 2**). It was observed mainly in states such as Zacatecas, Guanajuato, Baja California, Colima, Guerrero, Tabasco, Nuevo León, and Coahuila y Chihuahua. Although in Guerrero the mortality rates climbed to 149%, it was the federative state that registered the mortality rate higher in 2015: 76 deaths per 100,000 populations. Also, it is very important to highlight that

in several states the mortality rates declined during the study period. Quintana Roo, Querétaro y San Luis Potosí had the greatest decrease (**Figure 2**).

The higher proportion of deaths, both in Mexico as in Colombia had occurred in the group of 20-39 years-old, with near to 54.3% and 61.0%, respectively (**Table 2**). In both countries, the men had been the most affected, with a ratio of

8/1 (Mexico) and 11/1 (Colombia) (**Table 2**). In both countries, the mechanism of death by homicides that most generated mortality was firearms: 82.0% in Colombia and 61.5% in México. In the second group of causes, sharp weapons were more frequently involved. They were more prevalent in Mexico than in Colombia. In both countries, women were the most affected by this kind of weapon (**Table 3**).

Table 2: Comparative Mortality by homicides, quinquenal groups between. Colombia and México. 2000-2015.

Age groups	Women				Men				Total			
	Colombia		México		Colombia		México		Colombia		México	
	N	%	N	%	N	%	N	%	N	%	N	%
<5	542	2.06	1,327	4.61	678	0.23	1,682	0.74	1,220	0.38	3,009	1.18
5 a 9	323	1.23	510	1.77	482	0.16	707	0.31	805	0.25	1,217	0.48
10-14	765	2.91	901	3.13	2,090	0.71	2,012	0.89	2,855	0.89	2,913	1.14
15-19	3,541	13.47	3,293	11.44	33,871	11.5	19,089	8.4	37,412	11.66	22,382	8.74
20-24	4,122	15.68	3,789	13.17	57,583	19.54	33,471	14.73	61,705	19.23	37,260	14.55
25-29	3,776	14.36	3,528	12.26	51,885	17.61	35,287	15.52	55,661	17.34	38,815	15.16
30-34	2,979	11.33	3,210	11.15	40,686	13.81	33,375	14.68	43,665	13.61	36,585	14.29
35-39	2,674	10.17	2,823	9.81	31,994	10.86	29,136	12.82	34,668	10.8	31,959	12.48
40-44	2,187	8.32	2,246	7.8	23,466	7.96	21,992	9.68	25,653	7.99	24,238	9.46
45-49	1,595	6.07	1,712	5.95	16,795	5.7	15,916	7	18,390	5.73	17,628	6.88
50-54	1,114	4.24	1,309	4.55	11,309	3.84	11,157	4.91	12,423	3.87	12,466	4.87
55-59	663	2.52	946	3.29	6,943	2.36	7,841	3.45	7,606	2.37	8,787	3.43
60-64	449	1.71	760	2.64	4,365	1.48	5,443	2.39	4,814	1.5	6,203	2.42
65-69	352	1.34	655	2.28	2,686	0.91	3,871	1.7	3,038	0.95	4,526	1.77
70-74	252	0.96	590	2.05	1,635	0.55	2,701	1.19	1,887	0.59	3,291	1.29
75 and more	958	3.64	1,181	4.1	8,156	2.77	3,622	1.59	9,114	2.84	4,803	1.88
Total	26,292	100	28,780	100	2,94,624	100	2,27,302	100	3,20,916	100	2,56,082	100

Table 3: Comparative Mortality according to death mechanism Colombia-México 2000-2015.

	Women				Men				Total			
	Colombia		México		Colombia		México		Colombia		Mexico	
	N	%	N	%	N	%	N	%	N	%	N	%
Strikes without weapons/rape	49	0.19 (0.13,0.24)	323	1.12 (1.00,1.25)	153	0.05 (0.04,0.06)	1,900	0.84 (0.79,0.87)	202	0.06 (0.05,0.07)	2,223	0.87 (0.83,0.90)
Poisoning	94	0.36 (0.28,0.43)	292	1.01 (0.90,1.13)	182	0.06 (0.05,0.07)	505	0.22 (0.20,0.24)	276	0.09 (0.07,0.09)	797	0.31 (0.29,0.33)
Hanging/ Strangulation	1375	5.2 (5.0,5.5)	5,029	17.5 (17.0,17.9)	3,229	1.10 (1.05,1.13)	14,202	6.3 (6.1,6.3)	4,604	1.43 (1.39,1.47)	19,231	7.5

Firearm	18,594	70.7 (70.2,71.3)	11,967	41.6 (41.0,42.2)	2,44,438	83.0 (82.8,83.1)	1,45,545	64.0 (63.8,64.2)	2,63,032	82.0 (81.8,82.1)	1,57,512	61.5 (61.3,61.7)
Sharp weapon	5,369	20.4 (19.9,20.9)	5,332	18.5 (18.1,19.0)	42,766	14.5 (14.4,14.6)	34,688	15.3 (15.1,15.4)	48,135	15.0 (14.8,15.1)	40,020	15.6 (15.5,15.8)
Negligence	126	0.48 (0.39,0.57)	320	1.11 (0.99,1.23)	153	0.05 (0.04,0.06)	412	0.18 (0.16,0.19)	279	0.09 (0.07,0.09)	732	0.29 (0.26,0.30)
Other causes	685	2.6 (2.4,2.8)	5,517	19.2 (18.7,19.6)	3703	1.26 (1.21,1.29)	30050	13.2 (13.1,13.4)	4388	1.37 (1.32,1.40)	35567	13.9 (13.6,14.0)
Total	26,292	100	28,780	100	2,94,624	100	2,27,302	100	3,20,916	100	2,56,082	100

Differences

In Mexico, the mortality trend by homicides increased, whereas in Colombia, it declined (Figures 1 and 2). In the study period, there were bigger changes in mortality adjusted rates by homicides for both countries. At the beginning of the period of observation, Colombia had a rate six times higher than Mexico, but this rate dropped in the last years, while in Mexico, this behaviour was opposed. In 2015, the rates ratio between both countries descended to 1.5 times.

In Colombia, the mortality rate by homicides in the men group of 20-29 decreased. The rates, at the end of the study period dropped to 2/3 parts. Contrary, in México, the men between 20-29 years-old were the ones that mortality rose the most, in average 1,5 times. Mexico showed the higher proportion of deaths by homicides in life extreme ages (less than five years old and 65 years old and up) (Table 2).

The mechanism of death by homicide was classified as other (undetermined), it was porcentually higher (0.4%) in México than in Colombia (0.04%). With respect to women, among the mechanisms more used we could identify which related to physical force such as strangulation, hanging, beatings, poisoning, situations that generated greater suffering; these kind of deaths were more frequent in Mexico than in Colombia. In Mexico, strangulation cases were three times more observed compared to Colombia; in men were similar facts, the hanging was four times more frequent in Mexico (Table 3).

We used multiple analysis, and especially logistic regression, step to step. The country was used as a dependent variable. It was identified that higher death likelihood was found between people that died in Colombia (compared to Mexico) between 10-19 years-old (OR: 1.47 CI 95%:1.38-1.57), with respect to minors than 10 years-old. In other group ages this likelihood was lesser and dropped significantly in people between 50-69 years old (OR: 0.91 CI 95%: 0.85-0.97) with respect to minors than 10 years-old. The death likelihood was slightly higher in men compared to women (OR: 1.07 CI 95%:1.05-1.10). The death likelihood by homicides, for those who died in Colombia with respect to Mexico, was bigger by firearms (OR: 21.5 CI

95%:18.6-24.9) and by sharp weapons (OR: 16.9 IC 95%: 14.6-19.6) (Table 4).

Table 4: Comparative mortality by homicides Colombia México 2000-2015 logistic regression model.

	OR	95% CI		P Value
Age groups				
Less than 10	1			
10 to 19	1.47	1.38	1.57	0
20 to 49	1.15	1.08	1.22	0
50 to 69	0.91	0.85	1	0.005
70 and more	0.71	0.66	0.77	0
Death mechanism				
Strikes without weapons / rape	1			
Poisoning	3.86	3.15	4.73	0
Hanging / Strangulation	3.1	2.67	4	0
Firearm	21.6	18.62	24.96	0
Sharp weapon	17	14.59	20	0
Negligence	4.79	3.89	5.9	0
Other causes	1.51	1.3	1.76	0
Sex				
Women	1			
Men	1.07	1.05	1.1	0

Discussions

Mortality due to homicides is a multifactorial event and for its control and prevention, it needs the design and implementation of multisectorial actions with strong political commitment, huge scholar and laboral opportunities, direct incidence on social economic determinants, among others. In despite of the great decline that was observed in Colombia

and the increase that occurred in Mexico, the mortality adjusted rate by homicides in both countries is twice or three times above average with respect to the region,⁸ wherever the most affected have been men between 15-34 years.

According to WHO, the biological risk factors, in conjunction with individual elements, explain the higher risk of aggressions, which when interacting with circumstances of familiar, social, community and cultural order and other external elements, help in the increase and manifestation of the violent homicides.¹ Among the circumstances where aggressive facts are generated we can find fights, robberies and isolated murderer; mainly they are done by delinquent groups such as gangs, drug traffickers, criminal bands, outlaw groups such as guerrilla, paramilitary or state forces [18-23]. In Colombia, and also in the last years, in Mexico, the main motivator of homicide deaths have been the drug dealing, where organized bands and hired assassin were added. The elimination of cartel leaders has generated division, fight for territories, routes and alliances to produce, store, move and distribute narcotics [7,9,11,24-26].

In Colombia, despite the declining trend in the study period, between 2008 and 2009 occurred a slight increase in the mortality rate, derived from disturbance of public order in Antioquia and Valley departments (together added more than 42% of homicides). That situation was due to the reactivation of criminal bands and reorganization of narcotic groups, among others. Another explanation was the open report about the "false positive phenomenon", those circumstances generated perverse incentives to military forces if they murdered civilians and after they were presented as killed in combat [27-29].

Some factors have acted in pros and cons of declined mortality rate by homicides in Colombia and the increase in Mexico from 2007. Among others, we can find impunity, corruption (to judges, military, municipal, regional and national authorities, the absence of authority, the lack of government, and minimal social policies of inclusion. All these circumstances increase the "breeding ground", where the most affected are young people. That situation was planted clearly by WHO in the World Report of 2003 [1,7,24,27].

These findings, partially are coincidence with Hernandez and cols analysis: they reported that northeast states are the most affected by violence and drug trafficking in the last years: Tamaulipas, Chihuahua and Nuevo León [30] Moreover, these states in the north borderline, had complexed situation in violence, similar to reports in other borderlines, for example, borderline Salvador-Guatemala, place used for drug trafficking and where the mortality by homicide has been higher than in other places [31].

In Mexico there has been a high level of corruption in their institutions and military forces, with illegal processes of importation of guns from the USA, which are used not only for illegal and violent operations, but as interchange of drug that narcotraffickers have received from cartels of Colombia, Mexico and Central America [32]. Also, associated to corruption, it is possible to find impunity, with minimal

advances in criminal researches, which has happened in those entities with higher level of corruption [33] That situation have antecedents since the 90's; that has generated the concepts of "Failed States", weak and with a lot of problems for its performance (lack or weakness in the justice system, huge work in some judges, with skills, materials and humans resources deficient, among others), causing opportunities from members of organized crime that affected them and didn't let them work with efficiency [13,24,34-36].

It is known that violence not necessarily happens in poverty circles, in other words, not all poor people are violent; nevertheless, it is true that social inequality or depressed environments have higher likelihood of occurrence of violence [5]. The entities (states and departments) where more deaths due to homicide have occurred, they weren't among those poorest in both countries. In Colombia: Antioquia and Valle have contributed with more than 41% of deaths. However, they weren't the departments with the worst social economic conditions, although in each city it is possible to see some circumstances associated with inequality processes. For example, Medellín, Antioquia's capital had the higher Gini in home in the middle of the study period [9,37-39].

In México, there are different studies that had reported that political empresarial elites had been promoters of inequality social processes [40,41]. Some authors had reported that in México "There are notorious inequity in health associated with higher levels of social exclusion", that had been reflected in mortality excess in some municipalities with higher or very higher margination index located in states such as Chiapas, Oaxaca and Guerrero [6]. That situation has been used by delinquent groups who offer benefits, better incomes to people of excluded zones or with higher level of margination.

In Colombia, there are some explanatory hypothesis about the decline observed, based on studies and local reports. From 2002 was prioritized in a public agenda, the Politics of Democratic Security, which maybe, contributed to the decrease of the mortality rate by homicide [42]. Moreover, from the 90's, several Mayors of the bigger cities created politics for restrictions in carrying firearms, to alcohol ingestion and strengthening of the public forces to control and reduce the organized delinquents [43,44].

The experience in control of firearms started from 1993 in Cali and from 1997 in Bogotá; based on that practice was constituted how one security strategy flag's. After, in the beginning of new millennium, that strategy was adopted in Medellín and neighboring municipalities, moreover in other capital cities such as Bucaramanga, Pereira, Cucuta and Cartagena [45,46]. In Cali, it was observed that during the times of restriction of alcohol consumption, that the Mortality rate by homicides dropped [47,48].

It is necessary to have caution with the results shown in this article due to some possible limitants. Firstly, the information about deaths in each countries could have sub register problems or wrong classification. Nevertheless, this condition is less possible because both organizations that produce this information (DANE in Colombia and SINAIS in México) have

evaluation and rigorous reclassifications systems that minimize the possible measurement mistakes. The second, we didn't made analysis by socioeconomic stratum neither by social stratum or education level for each country due to information in the last variable (schooling) had sub register up to 20%; it is possible that some imputation processes could have improve that problematic situation.

The third, the source of secondary registries by homicides didn't identify motives, causes or determinants likely associated to the occurrence of these events (impossible to identify if they were fights, intolerance, drug trafficking, passionate problems, revenge acts, among others). For this reason, the hypothesis that we have done are expeculatives, based on literature revision, according to the experience and work of each author by country. However, in spite of all these possible limitants, this work joins to the evidence body and findings of this issue. It generates hypotheses about behavior of violent deaths in two Latin American countries, which have more than 50% Spanish speech population in the region, with some characteristics in common but also with some differences.

Beyond these limitations that we can find in mortality analysis by potential problems in some sources consulted, the evidence reviewed, it constitutes patterns, differences and similarities with relation to a common phenomenon that both Latin American Countries have lived. Also, let to identify and compare some specific characteristics, which are causing this public health problem, involving mainly people in productive ages. It is necessary; from these finding to generate new research questions with the purpose of controlling the consequences most severe to violence, where one the biggest findings had been the different patterns to execute violence against women in Mexico.

From some years, several public health experts, with respect to mortality by homicides, have suggested the need of designing and implementing inclusive preventive actions, "without neglecting the care and rehabilitation of those affected" [1,5,11,12]. Although there are evidences that repressive systems with strong institutions have caused a drop in homicides rates, also it is important to design and promote inter-sectorial strategies to improve higher connivance and welfare level for people both countries [49,50]. Ideally, the interventions must be designed, planned, accorded and implemented with the accompaniment of affected communities, and the support of the civil society, academic people, guils, and local government, if not, it will be difficult to leave this vicious circle.

It is imperative to continue professionalizing the police members, to increase training processes and wages, and mainly, to extract them from the corruption circles. A state policy, it is necessary which not only would impact the mortality by violence, but also other public health events, where it would be possible to promote some mechanisms to distribute the wealth. This would improve the inequality and would impact several events of external causes and others that produce high burden disease such as peri and maternal events,

cardiovascular events, metabolic events, among others [51,52].

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