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## ORIGINAL ARTICLE / ARTIGO ORIGINAL

# Wounded adolescences: a portrait of firearm violence reported in Brazil

Adolescências feridas: retrato das violências com arma de fogo notificadas no Brasil

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**ABSTRACT:** *Objective:* To describe the notifications of interpersonal and self-inflicted firearm violence in adolescents and to identify the factors associated with the notification of this event. *Methodology:* Cross-sectional study analyzing data from Sinan from 2011 to 2017, in adolescents aged 10-19 years, injured by firearms. The  $\chi^2$  test was used to verify the gender ratio difference. Correlation analysis and multiple linear regression were performed between the logarithm of the firearm notification rate and each independent variable, in a sample of large municipalities. *Results:* There were 30,103 reports of firearm violence in adolescents, of which (74.7%) were males aged 15-19 years (83.8%). Among girls, violence is more common at home, with a known perpetrator, and with physical and sexual violence combined. The death rate by firearms was higher in Fortaleza, Maceió, João Pessoa, Salvador and Natal, ranging from 105.88 to 71.73 per 100 thousand. Higher notification rates of firearm violence were associated with higher firearm death rates and greater coverage of health facilities. *Conclusion:* Firearm violence is a major public health problem in adolescents. Attacks on the disarmament statute and the loosening of gun possession and ownership directly confront the present and future of children and adolescents.

Keywords: Adolescent. Health information systems. Surveillance. Gunshot.

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**RESUMO:** *Objetivos:* Descrever as notificações de violências interpessoais e autoprovocadas com arma de fogo em adolescentes e identificar os fatores associados à notificação desses eventos. *Metodologia:* Estudo transversal com dados do Sistema de Informação de Agravos de Notificação (SINAN) de 2011 a 2017, em adolescentes de 10 a 19 anos feridos por arma de fogo. Utilizou-se o teste χ² para verificar a diferença de proporção entre os sexos. Realizaram-se análise de correlação e regressão linear múltipla entre o logaritmo da taxa de notificação por arma de fogo e cada variável independente, em amostra de municípios de grande porte. Aplicaram-se teste de normalidade e homocedasticidade ao modelo final. *Resultados:* Registraram-se 30.103 notificações de violências com armas de fogo em adolescentes, sendo 74,7% no sexo masculino de 15 a 19 anos (83,8%). Entre as meninas, a violência é mais comum na residência, com agressor conhecido e violência física e sexual combinadas. A taxa de óbito por arma de fogo foi maior em Fortaleza, Maceió, João Pessoa, Salvador e Natal, variando de 105,88 a 71,73 por 100 mil. A maior taxa de notificação de violência por arma de fogo teve associação com maiores taxas de óbito por esse tipo de arma e maior cobertura das unidades de saúde. *Conclusão:* A violência perpetrada por arma de fogo é um importante problema de saúde pública em adolescentes. Os ataques ao estatuto do desarmamento e a flexibilização do porte e da posse de armas afrontam diretamente o presente e o futuro das crianças e adolescentes.

Palavras-chave: Adolescente. Sistemas de informação em saúde. Vigilância. Ferimentos por arma de fogo.

## INTRODUCTION

Adolescence is considered a moratorium phase<sup>1</sup>, in which takes place the transition from childhood life and its protections to the arrival of adulthood, with its responsibilities. In order to guarantee the rights of adolescents, the Child and Adolescent Statute (ECA) provides for protective and accountable forms that preserve adolescence as a peculiar stage of development, guaranteeing special attention in the legal sphere and in public social protection policies<sup>2</sup>.

However, a considerable part of Brazilian adolescents experience situations of violence that put their healthy development at risk. According to the study Global Load of Diseases, there are 251,000 firearm deaths globally each year, and Brazil led the ranking with 43,200 deaths in 2016, followed by the United States of America<sup>3</sup>. In the country, firearm mortality rates predominate in the 20 to 24 age group, followed by the 15 to 19 age group<sup>3</sup>. Thus, even though it represents only 24.6% of the country's total population, the 15 to 29 age group concentrated 54.5% of the total homicide victims in 2017<sup>4</sup>.

From a health standpoint, firearm injuries produce several psychological and physical consequences, including wounds, disabilities and death. They also imply considerable expenditures for all levels of complexity in the health sector, leading to significant increases in spending in other sectors, such as the economy and social security<sup>5</sup>. Communities are also affected, since the presence of firearm violence situations alters social relations<sup>6</sup>, which can cause fear, impediment to the exercise of freedom and submission to the armed group or State, deepening social inequities.

National and international studies show that the greater availability of firearms in communities and homes is intrinsically related to the increase in mortality rates from accidents, suicides, homicides and mass murders<sup>3,4,6-13</sup>. Brazil had an important trajectory towards controlling the possession of firearms and encouraging their collection based on the 2003 Disarmament Statute (DS). There is consensus among Brazilian researchers that the DS was responsible for curbing armed violence in the country, promoting a certain stabilization of firearm homicide rates in the period from 2003 to 2017<sup>3,14</sup>. Contrary to the evidence, the Brazilian government issued seven presidential decrees in the first six months of 2019 that deal with easing the possession and carrying of weapons, with emphasis on the expansion of professional categories subject to authorization for possession, for residents of rural areas, and the release of more powerful weapons for civilians.

Firearm injury cases are treated by the health sector, from the provision of first aid to the registration of death in the case of fatal events. Thus, the Unified Health System has produced important data on deaths from firearm injuries and non-fatal violence based on the Mortality Information System (SIM) and the Notifiable Diseases Information System (SINAN), respectively. Since 2011, notification of cases of interpersonal and self-inflicted gun violence is mandatory for all health facilities, public or private, through SINAN. Therefore, the notifications offer diagnoses of non-fatal diseases and contribute to a better understanding of the phenomena based on the treatment provided at health facilities.

However, it is known that violence is underreported, so it is important to assess notification rates by municipality. It is hypothesized that municipalities in which the events of violence are more numerous and those in which health surveillance is more organized and health professionals more aware of the registration of these diseases are the ones that make more notifications. However, we ask whether other social or care network-related factors influence this procedure.

This study aimed to describe notifications of firearm violence in adolescents registered with SINAN and to identify the demographic, socioeconomic and health factors associated with the notifications of these events.

# **METHODOLOGY**

This is a cross-sectional study that analyzed the notifications of interpersonal and self-inflicted firearm violence registered at SINAN in individuals aged 10 to 19 years, in the period 2011–2017. This range corresponds to adolescents, according to the classification of the World Health Organization  $(WHO)^{15}$ , e and, for this group, the notification of violence is mandatory for both sexes<sup>16</sup>.

To characterize the notifications, the following variables were used, presented according to sex and age group (10 to 14 years and 15 to 19 years): race/color, place of occurrence, self-inflicted injury, type of violence and type of bond with the likely perpetrator

of violence. To check the difference in proportion between the sexes, the  $\chi^2$  test was performed with significance at 0.05.

Notification municipalities were classified according to population size: small (less than 100 thousand inhabitants); average (from 100 thousand to 500 thousand inhabitants); and large (more than 500 thousand inhabitants), considering an estimate of the resident population of the municipalities in 2015 prepared by the Ministry of Health (MS)<sup>17</sup>.

The variable type of violence in SINAN corresponds to the nature of the violence, according to the WHO classification<sup>18</sup>. The Ministry of Health advises that, for purposes of notification with SINAN, only the main type of violence should be noted in the notification form<sup>16</sup>. However, in the analyzed period, the presence of several types of violence was observed for the same case, which required the organization of categories according to combinations and the identification of the most frequent according to the study sample.

The variable bond/degree of kinship with the person treated allows the choice of different authors for the same case of violence. Therefore, the responses were categorized as follows: family member (father, mother, stepfather, stepmother and sibling); intimate partner (spouse, ex-spouse, boyfriend/girlfriend, ex-boyfriend/girlfriend); acquaintance (friend/acquaintance, caregiver, boss); unknown; police/law enforcement officer; and other ties (person with institutional relationship, among others). In the presentation of this variable, the cases identified as self-inflicted injury, suicide attempt and caused by self were excluded.

An ecological study was also carried out, using the notifying municipalities with more than 500 thousand inhabitants as the unit of analysis. The selection of large municipalities is due to the hypothesis that they have a more robust health surveillance management, and that notifications of violence against adolescents have expanded continuously since 2011, the year in which they became mandatory for all professionals and health units in the national territory<sup>16</sup>.

For the identification of factors associated with the notification of firearm violence in adolescents, the rate of notification of firearm violence in adolescents in the period was considered as a dependent variable. The following indicators were adopted as independent variables:

- demographic and socioeconomic: illiteracy rate<sup>19</sup>; race/color ratio<sup>20</sup> (ratio of 10 to 19 year olds of black race/color compared to white, yellow and indigenous); unemployment rate<sup>19</sup>; child labor rate<sup>19</sup>; Gini index<sup>19</sup>; and proportion of poor population<sup>19</sup>;
- health-related: death rate from firearms in adolescents; rate of health units<sup>21</sup>; health teams rate<sup>21</sup>, coverage of primary care teams<sup>21</sup>.

For the construction of the firearm death rate, the average of deaths in the period 2011-2017 in the population aged 10 to 19 years was considered in the numerator, with the following codes of the International Classification of Diseases (ICD-10): exposure to inanimate mechanical forces (W32: handgun; W33: rifle, shotgun and larger firearms; and W34: other, unspecified firearms); intentional self-harm (X72: handgun; X73: rifle, shotgun and larger

firearms; and X74: other, unspecified firearm); assaults (X93: firing of a handgun; X94: firing of a larger caliber firearm; and X95: firing of another, unspecified firearms); event of undetermined intent (Y22: handgun discharge, undetermined intent; Y23: rifle, shotgun and larger firearm discharge, undetermined intent; and Y24: other and unspecified firearm discharge, undetermined intent); and legal intervention and operations of war (Y35: legal intervention, and Y36: operations of war). This latter group was included due to the fact that these events mostly happen with the use of firearms<sup>5</sup>.

The rate of health units corresponded to the number of health units by the resident population in 2015 per group of 10,000 inhabitants. The following health units were considered in December 2015: Psychosocial Care Center (CAPS), health center/basic health unit, specialized clinic, specialized hospital, general hospital, day hospital, polyclinic, community health center, emergency room, specialized emergency room, general emergency room, family health unit, mixed unit, pre-hospital-urgency/emergency mobile unit. The rate of health teams corresponded to the number of health teams by the resident population in 2015 per group of 10,000 inhabitants. All possible types of teams from the National Register of Health Establishments were considered within the competence of December/2015. The coverage of primary care teams corresponded to the number of Family Health Strategies (ESF) and ESF equivalent in 2015, divided by the population in the same period by a group of 3 thousand inhabitants.

Correlation analysis and linear regression were carried out between the log of the dependent variable and each independent variable. Variables with p < 0.25 were included in the multiple model. The multiple model was built based on the insertion of the most significant variable in each step (stepwise model), considering the level of significance at 0.05. In the final model, tests were performed to verify the interaction between variables, namely, normality tests (Shapiro-Wilk) and homoscedasticity (Faraway).

## RESULTS

In the 2011–2017 period, the SINAN national database gathered 1,429,931 notifications of violence, 374,673 (26.2%) of which involved adolescents.

In the same period, 59,095 notifications were identified whose means of aggression were firearms, 30,103 (50.9%) of which involved adolescents; on average, there were 11 notifications of adolescents targeted each day in Brazil. In the analyzed period, most notifications of firearm violence occurred in the group of adolescents aged 15 to 19 years (83.8%) and among males (74.7%).

In both age groups analyzed, similarities were observed between genders, with statistically significant differences: majority of black race/color; public streets as the main place of violence; large municipalities as the prevalent place of residence for adolescents (in the group between 15 and 19 years old, the difference between genders was not significant); higher proportion of physical violence; aggressions committed mainly by unknown persons.

The main differences observed according to sex were:

- for female adolescents, home as the place for the occurrence of violence was about twice as frequent as for males;
- sexual violence, both isolated and combined with physical violence, was more frequent among girls (47.7% in the 10 to 14 years old age group and 41.5% in the 15 to 19 years old group) than among boys (1.4% in the 10 to 14 years old group and 0.4% in the 14 to 19 years old group);
- aggression by an intimate partner was more frequent among girls aged 15 to 19 (8.9%) than among those aged 10 to 14 years (3.9%);
- among male adolescents, this type of bond with the aggressor did not exceed 0.5% in both age groups (Table 1).

Table 1. Characteristics of notifications of interpersonal or self-inflicted firearm aggression in adolescents (10 to 19 years old), according to sex and age group. Brazil, 2011 to 2017.

	Age group (years)									
Characteristics of notifications	10 to 14					15 to 19				
	Female		Male		р	Female		Male		p
	N = 1,991	%	N = 2,871	%		N = 5,628	%	N = 19,613	%	,
Race/color										
White	546	27.4	524	18.3		1,641	29.2	3,471	17.7	0.000
Black (black + brown)	1,093	54.9	1,685	58.7		3,020	53.7	11,093	56.6	
Yellow	9	0.5	14	0.5	0.000	40	0.7	103	0.5	
Indigenous	15	0.8	11	0.4		32	0.6	66	0.3	
Ignored	328	16.5	637	22.2		895	15.9	4,880	24.9	
Place of occurrence										
At home	664	33.4	505	17.6		1,239	22.0	1,760	9.0	0.000
Collective housing	11	0.6	16	0.6		29	0.5	88	0.4	
School	22	1.1	18	0.6	0.000	41	0.7	96	0.5	
Bar/similar and others*	76	3.8	115	4.0		296	5.3	1,041	5.3	
Public streets	731	36.7	1,415	49.3		2,542	45.2	10,697	54.5	
Other locations	222	11.2	182	6.3		664	11.8	675	3.4	
Ignored	265	13.3	620	21.6		817	14.5	5,256	26.8	

Continue...

Table 1. Continuation.

	Age group (years)									
Characteristics of notifications	10 to 14					15 to 19				
	Female		Male		р	Female		Male		р
	N = 1,991	%	N = 2,871	%	,	N = 5,628	%	N = 19,613	%	
Self-inflicted injury										
Yes	62	3.1	99	3.4	0.375	154	2.7	556	2.8	0.002
Type of violence										
Only physical	793	39.8	2,355	82.0		2,633	46.8	17,398	88.7	0.000
Physical and others	183	9.2	344	12.0		523	9.3	1,714	8.7	
Only sexual	523	26.3	22	0.8	0.000	1,247	22.2	31	0.2	
Physical and sexual	426	21.4	17	0.6	0.000	1,089	19.3	38	0.2	
Other combinations	66	3.3	127	4.4		119	2.1	379	1.9	
Ignored	-	0.0	6	0.2		17	0.3	53	0.3	
Type of relationship										
Family	173	8.7	205	7.1		148	2.6	498	2.5	
Intimate partner	77	3.9	6	0.2		503	8.9	51	0.3	0.000
Acquaintance	273	13.7	401	14.0	0.000	489	8.7	2,280	11.6	
Unknown	1,007	50.6	1,108	38.6		3,125	55.5	7,583	38.7	
Police/law enforcement officer	19	1.0	108	3.8		56	1.0	1,195	6.1	
Other types of relationship	78	3.9	80	2.8		103	1.8	290	1.5	
lgnored	296	14.9	829	28.9		1,023	18.2	7,054	36.0	

Source: Notifiable Diseases Information System (SINAN)/Ministry of Health<sup>36</sup>.

A total of 41 municipalities with more than 500 thousand inhabitants made notifications of firearm violence among adolescents. This group of municipalities was composed of 20 capitals, the Federal District and 20 municipalities, distributed across the five regions of Brazil (Table 2).

Death rates from firearms among adolescents were higher in five capitals in the Northeast: Fortaleza, Maceió, João Pessoa, Salvador and Natal, varying from 105.88 to 71.73 per 100 thousand (Table 2).

<sup>\*</sup>The category Bar/similar and others corresponds to the grouping of the Place categories Sports practice, Bar/similar, Trade/services and Industry/construction.

Table 2. Average rate of death by firearms in adolescents and average rate of notification of interpersonal or self-inflicted firearm violence in adolescents. Municipalities with more than 500 thousand inhabitants in Brazil, 2011 to 2017.

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Municipality of notification	ARDBF*	ARDBF Ranking	NR**	TN Ranking	Municipality of notification	ARDBF*	ArDBF Ranking	NR**	NR Ranking
Fortaleza (CE)	105.88	1	28.49	14	Londrina (PR)	35.22	22	31.31	12
Maceió (AL)	99.72	2	133.89	2	Juiz de Fora (MG)	32.11	23	24.50	15
João Pessoa (PB)	80.79	3	151.90	1	Brasília (DF)	31.66	24	12.39	24
Salvador (BA)	79.06	4	62.95	6	Manaus (AM)	31.36	25	9.73	29
Natal (RN)	71.73	5	92.80	4	Curitiba (PR)	30.44	26	37.10	10
Ananindeua (PA)	71.65	6	3.57	39	Cuiabá (MT)	30.21	27	19.28	20
Feira de Santana (BA)	67.40	7	54.45	7	Rio de Janeiro (RJ)	26.82	28	9.57	30
Belém (PA)	66.57	8	9.19	32	Porto Velho (RO)	25.40	29	12.06	25
Aparecida de Goiânia (GO)	60.88	9	10.76	27	Uberlândia (MG)	22.55	30	31.03	13
Aracaju (SE)	58.28	10	14.78	22	Osasco (SP)	15.29	31	8.16	34
Porto Alegre (RS)	55.92	11	33.93	11	Joinville (SC)	15.08	32	7.79	35
Contagem (MG)	55.38	12	49.08	8	São Paulo (SP)	15.06	33	2.78	41
São Luís (MA)	51.60	13	15.06	21	Guarulhos (SP)	14.64	34	3.34	40
Goiânia (GO)	50.07	14	108.81	3	Campo Grande (MS)	14.01	35	23.90	17
Jaboatão dos Guararapes (PE)	49.11	15	9.45	31	Santo André (SP)	13.75	36	6.28	37
São Gonçalo (RJ)	48.33	16	10.71	28	São Bernardo do Campo (SP)	12.66	37	8.44	33
Recife (PE)	45.67	17	81.84	5	Campinas (SP)	11.61	38	7.57	36
Teresina (PI)	44.45	18	47.68	9	São José dos Campos (SP)	10.86	39	4.95	38
Nova Iguaçu (RJ)	42.40	19	19.47	19	Sorocaba (SP)	9.26	40	11.31	26
Belo Horizonte (MG)	38.54	20	14.08	23	Ribeirão Preto (SP)	9.09	41	24.44	16
Duque de Caxias (RJ)	37.06	21	20.50	18					

Source: Notifiable Diseases Information System (SINAN)/Ministry of Health<sup>36</sup>.

ARDBF: Average Rate of Deaths by Firearms (per 100,000); \*\*NR: average notification rate of firearm violence (per 100,000).

<sup>\*</sup>International Classification of Disease Codes (ICD-10) considered: W32-34; X72-X74; X93-X95; Y22-Y24; Y35-Y36;

According to the rate of notification of firearm violence among adolescents, the municipalities that most reported between 2011–2017 were João Pessoa, Maceió, Goiânia, Natal and Recife, with rates ranging from 151.9 to 81.84 per 100 thousand. In 11 municipalities, the notification rate was higher than the death rate, and in the others, this relationship was inverse (Table 2).

In the ecological study, significant correlations (p < 0.25) were identified between the dependent variable and the variables rate of death by firearms, rate of health units, illiteracy rate, Gini index, rate of health teams, proportion of the poor population and race/color ratio. The final model met the assumptions of normality (p = 0.11) and homoscedasticity (p = 0.13) and remained with the variables death rate ( $\beta$  = 0.02; p < 0.01) and rate of units of health ( $\beta$  = 0.35; p < 0.01), which did not interact with each other and resulted in adjusted R2 = 0.56.

An association was identified between the rate of notification of firearm violence and the variables average rate of death by firearm and rate of health units. Examining the final model, it is estimated that the increase of 10 units in the rate of death by firearms in adolescents resulted in an increase of 22.1% in the rate of notification of interpersonal and self-inflicted firearm violence in this population. The increase of one unit in the rate of health units, on the other hand, causes an increase of 41.9% in the notification rate.

## **DISCUSSION**

The study analyzed the 30,103 notifications of interpersonal and self-inflicted firearm violence cases in adolescents aged 10 to 19 years between 2011 and 2017 in Brazil. The scenario presented is alarming, especially when considering the lethality of firearm injuries, their social and health consequences and the underreporting of cases in SINAN.

Brazil is the world leader in firearm deaths in absolute numbers, of which more than half of the victims are young people and adolescents. The recent decisions to expand possession and carrying of weapons, against national and international evidence, may imply more violent deaths and more insecurity, especially among the adolescent, young, poor and black population<sup>4,22</sup>. Therefore, SINAN and SIM can contribute data to monitor and evaluate the effect of these policies, especially on adolescents and young people, a population that has the highest rates of mortality and years of life lost due to premature deaths and disabilities<sup>4,23</sup>.

When we relate the highest percentage of reports of firearm violence in adolescents with the current government proposals for easing the possession and carrying of weapons and depriving the ECA of its functions as a protective and accountable regulation, we fear a scenario in which adolescents dwelling in the peripheries will be even more vulnerable than current data indicates. The biographical path of adolescence is unique and the risks of experiencing situations of violence must be analyzed in an intersectional manner<sup>24</sup>, based on the encounter of the class, gender and race categories.

In this perspective, the occurrence of violence in the young population has two important variants: issues related to personal development and socioeconomic conditions, which

may or may not allow means of accessing rights that can minimize or enhance the risk of violence, as well as means of access or exposure to firearms. The different contexts (family, community, school) are fundamental indicators when reflecting on the conditions of the emergence of violence situations in adolescence. This is exemplified in the study by Santos et al.<sup>25</sup>, who, based on the finding that young people have been hit the hardest by violence, analyzed the contexts of the life trajectories of five young people in the 15 to 24 years old age group, homicide victims. Among some conclusions, there are the prevalence of conditions of poverty, school dropout and the absence of social policies to support the construction of life projects for this age group or those with a focus on community and territorial actions<sup>25</sup>.

In the present study, most of the notifications made between 2001 and 2017 involved male individuals (74%), of black and brown skin color (56%) and aged between 15 and 19 years old, confirming a profile that was also observed among homicide victims<sup>4,23</sup>.

A Canadian study comparing firearm mortality in four countries (United States, Mexico, Colombia and Brazil) shows that, although Brazil and the United States of America have the highest death rates by firearms for the black population, the effect of race was greater in the latter, while in Brazil, the greatest effect was caused by the low educational index<sup>26</sup>. It should be noted that in Brazil, historically, black people have been denied access to better living conditions, such as education, work and housing, which, therefore, implies lower educational levels in this population<sup>27</sup>.

A specificity of the notifications of firearm use is the prevalence of public streets as the main place of occurrence and the fact that the aggressor is an unknown person, for both sexes. This profile differs from that found in studies that analyzed notifications in general, especially among adolescents, in which the predominance was violence that occurs within the family environment and victims having close links with the aggressor<sup>23,28-30</sup>.

However, for female adolescents, their home also stood out as an important place where injuries occur with the use of firearms, which reveals that, in domestic violence, unequal gender relations are an important factor of vulnerability in this phase of life.

We highlight the high proportion of sexual violence among female adolescents. This is an important indicator for the protection services network and for public security policies, especially when considering the impact of this sum of different types of violence. The study that crossed death data with reports of violence found that, among deaths from aggression in adolescents aged 10 to 19 years, 8.6% had prior notification of rape<sup>31</sup>.

In 11 large municipalities, the rate of notification of firearm violence was higher than the rate of firearm deaths, revealing sensitivity to the notification of this condition. The epidemiological surveillance of municipalities, especially in those where the notification rate is lower than the death rate, must be strengthened with training and tripartite resources in order to generate evidence and articulate care in cases related to violence.

Underreporting in SINAN is reported for different health problems and levels of complexity, and is related to the difficulty in identifying cases, the difficulties in the notification process, the overload of professionals and their low technical qualification, the difficulties in recognizing violence-related health problems and fear of retaliation by aggressors in

cases of domestic/intrafamily violence<sup>32-34</sup>. Research carried out in municipalities in Ceará analyzed the factors associated with the underreporting of violence against children and adolescents in primary care and concluded that variables related to less work experience, not knowing and not having access to the notification form, as well as not knowing about appropriate referrals, the distrust of protection agencies and the fear of legal involvement contributed to the non-notification of these cases in SINAN<sup>35</sup>.

With regard to the ecological modeling, the use secondary data was necessary, which is publicly available and that could have an influence on the sensitivity of the municipality to report firearm violence. A limitation in some independent variables was the time lag for indicators based on the 2010 census. Although we only considered municipalities with more than 500 thousand inhabitants, there may be differences in the quality of information about death and in information regarding the health structure. Another limitation was the use of ICD codes related to firearm accidents, events that are currently not included in the case definition in reporting violence at SINAN. In light of this, we emphasize that conducting qualitative research at the local level can help to identify more precisely the problems and challenges for the universalization of the notification of violence in health services.

In view of the magnitude and transcendence of the problem, it is recommended that the Violence and Accident Surveillance System (VIVA) of the Ministry of Health include cases of firearm injuries (accidental, intentional or with undetermined intent), in all ages and in both sexes, in the definition of a case for notification of violence in SINAN.

The study points out the high notification of cases of firearm violence in adolescents, which is aggravated by the underreporting of these events. This scenario, added to the attacks on the DS and easing of the regulations on possession and carrying of weapons, leads to reflection on the need for more forceful operationalization of the ECA, in favor of guaranteeing the rights of adolescents and promoting autonomy and a healthy development process.

Therefore, the present and future of adolescents must be defended with policies on education, health, access to justice, peace and non-violence, in accordance with the commitments made in the 2030 Agenda of the Sustainable Development Goals.

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