

Brazilian Information System for Notifiable Diseases: quality of data on violence in Espírito Santo, Brazil, 2011 to 2018

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ABSTRACT

Objective: to evaluate the quality of data from interpersonal and self-inflicted violence notification forms reported in the Brazilian Information System for Notifiable Diseases (Portuguese acronym - SINAN - Sistema de Informação de Agravos de Notificação do estado do Espírito Santo) of Espírito Santo, Brazil, from 2011 to 2018.

Methods: an ecological study was conducted to assess data quality regarding the completeness of information on cases of interpersonal and self-inflicted violence reported between January 2011 and December 2018. Variables from fields classified as key, mandatory, and essential were analyzed using a scoring system to assess completeness, data consistency, and duplication. **Results:** of the 38 variables analyzed, 58.0% showed excellent completeness, 11.0% good, 16.0% fair, 13.0% poor, and 3.0% very poor. In the age-group analysis, completeness ranged from very poor to excellent. **Conclusion:** the completeness of data in the violence notification forms was satisfactory for approximately half of the variables analyzed. Monitoring data completeness and training professionals to complete notification forms correctly are necessary to generate reliable information that can support the formulation and evaluation of public policies.

Descriptors: Disease Notification; Data Accuracy; Health Information Systems; Epidemiological Monitoring; Violence.

INTRODUCTION

According to the World Health Organization (WHO), violence is classified into three broad groups, based on the perpetrator: self-inflicted violence (committed against oneself), interpersonal violence (domestic and community), and collective violence (violent acts that occur in macrosocial, political, or economic spheres, reflecting the domination of groups and the State). Another way of classifying violence is by the nature of the acts: physical, psychological, sexual, and those involving abandonment, neglect, or deprivation of care⁽¹⁾.

Regardless of the classification adopted, the phenomenon of violence affects individuals of all ages, social classes, genders, and racial/ethnic groups indiscriminately. According to a WHO report, one in three women, approximately 736 million, is subjected to physical or sexual violence by a partner or stranger⁽²⁾. In Brazil, from 2011 to 2020, external causes, such as violence, were the third leading cause of death, at 11.7%, behind only neoplasms (16.4%) and circulatory system diseases (27.1%)⁽³⁾. In 2019, 29.1 million people aged 18 or older suffered psychological, physical, or sexual aggression, corresponding to 18.3% of the country's residents⁽⁴⁾, underscoring that violence constitutes a serious public health problem in Brazil.

Violence permeates the most diverse daily interactions and violent interactions, affecting health as a whole⁽⁵⁾. The harm produced by them not only impacts individ-

uals but also communities, diminishing quality of life and undermining the overall health conditions of the population⁽⁶⁾.

This health problem is associated with the potential loss of years of life, temporary or permanent disability resulting from trauma, increased public spending on rehabilitation, as well as fear and distress, which leave their mark on individuals' life trajectories. Although these impacts cannot be precisely measured, they influence the processes of social production and reproduction^(7,8).

Considering the magnitude of the problem, Brazil has invested in actions and public policies to reduce violence. In 2001, the National Policy for Reducing Morbidity and Mortality from Accidents and Violence (In Portuguese - Política Nacional de Redução de Morbimortalidade por Acidentes e Violências)⁽⁹⁾ was enacted, followed by the establishment of the National Network for Violence Prevention and Health Promotion (In Portuguese - Rede Nacional de Prevenção da Violência e Promoção da Saúde), and the implementation of Violence Prevention Centers in States and Municipalities (In Portuguese - Núcleos de Prevenção à Violência em Estados e Municípios), through Ordinance No. 936 of May 19, 2004⁽¹⁰⁾. In 2011, with the publication of Ordinance No. 104/2011, which defines the terminology used, lists the diseases, conditions, and public health events of compulsory notification, and provides other guidelines, reporting cases of domestic, sexual, and other types of violence became mandatory in Brazil⁽¹¹⁾. As of 2014, reporting sexual violence and suicide attempts to Municipal Health Departments became compulsory within 24 hours⁽¹²⁾.

In 2021, the Plan to Combat Chronic Non-Communicable Diseases (In Portuguese - Plano de Enfrentamento das Doenças Crônicas e Agravos Não Transmissíveis) for the decade 2021-2030 in Brazil was launched. It proposed indicators and strategies to address interpersonal and self-inflicted violence, as well as to increase the target percentage of notifications submitted by municipalities across the country⁽¹³⁾.

Given the above, ensuring appropriate and timely reporting of violence is of paramount importance, as this instrument safeguards victims' rights. The Brazilian Ministry of Health has been working to implement a national violence surveillance system since 2006. Its operation enables more accurate diagnosis at the municipal, state, and federal levels, based on the analysis of information in the notification forms, with the aim of contributing to the development of health policies and, consequently, reducing the magnitude of violence in Brazilian municipalities⁽¹⁴⁾.

Reporting of violence must be undertaken by all health professionals, those responsible for public and private health establishments, as well as educational organizations⁽¹¹⁾.

These reports feed the Brazilian Information System for Notifiable Diseases (Portuguese acronym - SINAN - Sistema de Informação de Agravos de Notificação do estado do Espírito Santo), the main source of data for analyzing the health situation of violence in Brazil. However, poorly completed reports result in incomplete and unreliable data, hindering accurate diagnosis of these conditions⁽¹⁵⁻¹⁷⁾. Hence, there is a need to monitor data quality over time.

Therefore, the objective of this study was to evaluate the quality of data from compulsory notification forms on interpersonal and self-inflicted violence in the Brazilian Notifiable Diseases Information System in the state of Espírito Santo, Brazil, from 2011 to 2018.

METHODS

This descriptive ecological study evaluated the completeness of information in online notification forms for cases of interpersonal and self-inflicted violence in the state of Espírito Santo, Brazil, from January 2011 to December 2018.

Espírito Santo is in the Southeast region of Brazil, with a territorial area of 46,074.448 km² and a population of 4,108,508 inhabitants, resulting in a population density of 76.25 inhabitants/km². The state has a Human Development Index (HDI) of 0.740, a Gini Index of 0.509⁽¹⁸⁾, and a per capita income of R\$1,295.00. Its 78 municipalities are grouped into three health regions (Central/North, Metropolitan, and South)⁽¹⁹⁾, with 65.11% coverage by the Family Health Strategy⁽²⁰⁾.

The study population was drawn from the SINAN database, which was constructed from completed notification forms for cases of interpersonal and self-inflicted violence reported in the state of Espírito Santo between January 2011 and December 2018, using a spreadsheet provided by the Espírito Santo State Health Department (Portuguese acronym - SES-ES - Secretaria Estadual de Saúde do Espírito Santo).

Interpersonal and self-inflicted violence notification forms are completed by health professionals at all levels of care upon identifying suspected or confirmed cases of domestic/intrafamily violence, sexual violence, self-inflicted violence, human trafficking, slave labor, child labor, torture, legal intervention, or gender- and sexuality-based violence against individuals of all ages⁽¹⁴⁾.

In order to characterize the phenomenon of violence, the notification form is divided into 12 sections, namely: 1) General data; 2) Individual notification; 3) Residence data; 4) Victim's data; 5) Occurrence data; 6) Violence; 7) Sexual violence; 8) Probable perpetrator of violence data; 9) Referral; 10) Final data; 11) Additional information and comments; and 12) Reporting professional⁽¹⁴⁾.

In municipal and state epidemiological surveillance sectors, the quality of violence notification forms is assessed by analyzing the responses, in accordance with Ministry of Health guidelines⁽²¹⁾. To minimize inconsistencies in data entry, all fields are checked to ensure valid responses and to check for consistency across variables. Furthermore, healthcare professionals who submit notifications are instructed to describe the details in the "additional information" field, which helps verify the information recorded in other sections.

Before beginning the completeness assessment, duplicate entries were manually removed from the SINAN database, based on the analysis of patient's name, mother's name, date of birth, date of occurrence, and date of notification.

Data quality was assessed based on the completeness of the variables. The term completeness refers to the degree of completion of the variable under analysis, measured by the proportion of

notifications with a field completed in a category other than those indicating missing data. In other words, the numerator corresponds to the number of notifications with complete information, and the denominator to the total number of notifications evaluated, multiplied by 100⁽²²⁾. The degree of completeness of the variables was classified as follows: excellent (greater than 95.0% completion), good (95.0% to 90.0%), fair (90.0% to 80.0%), poor (80.0% to 50.0%), and very poor (less than 50.0%)⁽²²⁾.

For completeness analysis of violence notification forms in the state of Espírito Santo, 38 out of 69 variables that make up the form were examined. These included one “Key field” (Municipality of notification); 17 “mandatory fields” (type of notification, federative unit of notification, date of occurrence, date of birth, age, sex of victim, federative unit of residence, municipality of residence, relationship to the victim, code of the reporting unit, federative unit of occurrence, municipality of occurrence, type of violence, referral, sex of aggressor, pregnant woman, and location); and 20 “essential fields” (area of residence, type of disability/disorder, means of aggression, type of sexual violence, care provided, issuance of Work Accident Report, closing date, work-related violence, self-harm, number of people involved, race/ethnicity, marital status, disability/disorder, area of occurrence, repeated occurrence, education, occupation, time, suspected alcohol use, circumstance of injury). The remaining fields containing confidential data from the reporting unit, the victim, or the incident were not analyzed.

Stata software (version 14.1, 2015, StataCorp, College Station, TX, the United State of American) was used in the descriptive analysis of the database, which employed absolute (n) and percentage (%) frequencies.

The study was approved by the Research Ethics Committee of the Health Sciences Center at the Federal University of Espírito Santo (CEP-CCS-UFES), under Certificate of Ethical Approval (CAAE No. 88138618.0.0000.5060/2018).

RESULTS

Between 2011 and 2018, there were 36,931 reports of violence against individuals residing in the Espírito Santo, Brazil. Of these, 88 were excluded due to duplicate records, remaining 36,843 reports for analysis.

Of the 38 variables analyzed, 58.0% (n = 22) demonstrated excellent completeness, 10.5% (n = 4) good, 18.4% (n = 7) fair, 10.5% (n = 4) poor, and 2.6% (n = 1) very poor.

Completeness was excellent for the following variables: type of notification, federative units, reporting municipality, reporting unit code, date of occurrence, date of birth, age, victim's sex, state of residence, municipality of residence, area of residence, type of disability/disorder, state of occurrence, municipality of occurrence, type of violence, means of aggression, type of sexual violence, care provided, relationship to the victim, referral, issuance of the Work Accident Report (CAT), and closing date (Table 1). Completeness was good for the variables self-inflicted violence, number of people involved,

sex of the aggressor, and work-related violence. Completeness was fair for the variables pregnant woman, race/ethnicity, marital status, disability/disorder, area of occurrence, location, and repeated occurrence. Completeness was poor for the variables education, occupation, time, and suspected alcohol use, and very poor for the variable injury circumstance (Table 1).

Table 2 presents the quality assessment of the completeness of fields/variables in the notification forms, by year of notification.

Regarding the completeness of notification forms by age group from 2011 to 2018, the variables type of notification, Federative Unit and municipality of notification, age, sex of the victim, state and municipality of residence were completed in their entirety (100.0%) across all age groups (Table 3). The variable date of occurrence reached 100.0% completeness in the databases of adolescents, adults, and older adults, and 98.5% in the database of children (Table 3). Similarly, although these variables obtained an excellent score for completeness, date of birth (98.5%), area of residence (95.7%), type of disability/disorder (96.9%), state of occurrence (96.4%), municipality of occurrence (95.4%), type of violence (98.0%), means of aggression (93.0%), type of sexual violence (95.9%), relationship to the victim (94.7%), number of people involved (85.8%), sex of the aggressor (86.6%), place of occurrence (86.1%), time of occurrence (45.9%) and repeated occurrence (57.7%) showed lower percentages of completeness in the children's database compared to the other age groups (Table 3).

The variable “care provided” showed higher completeness for children (98.1%) and older adults (98.4%), while adolescents and adults had completeness rates of 96.6% and 96.4%, respectively (Table 3). The variable “referral” showed higher completeness in the databases for children (96.9%), adolescents (97.3%), and older adults (96.3%), and lower completeness for adults (95.0%). The variables race/ethnicity, disability/disorder, suspected alcohol use by the aggressor, and circumstance of injury showed low completeness across all age groups.

DISCUSSION

In this study, the finding that only 58% of the 38 variables evaluated were completed excellently demonstrates shortcomings on the part of the professionals responsible for reporting. Even among the mandatory variables, two variables (perpetrator sex and work-related violence) achieved good completeness scores, and one (pregnant woman) was rated fair, suggesting flaws in the system that prevent progression to the next variable on the SINAN violence notification form.

Despite instructions to complete all fields, mechanisms that prevent progression to the next variable - thereby making it mandatory - exist in only part of the form (28 fields, or 40.6% of the total variables). This limitation may have contributed to the submission of incomplete forms, as identified in this study.

Most of the variables on the form are classified as essential fields. Although important for calculating epidemiological indicators, their

Table 1 - Completeness percentage and quality of fields/variables in compulsory notification forms on interpersonal and self-inflicted, Espírito Santo, Brazil, 2011 – 2018

Field/variable	Field classification	Total	Completeness %	Quality
1. Type of notification	Mandatory	36,843	100.0	Excellent
2. FUA of notification	Mandatory	36,843	100.0	Excellent
3. Date of occurrence	Mandatory	36,792	99.9	Excellent
4. Municipality of notification	Key	36,843	100.0	Excellent
5. Date of birth	Mandatory	36,781	99.8	Excellent
6. Age	Mandatory	36,843	100.0	Excellent
7. Sex of the victim	Mandatory	36,834	99.9	Excellent
8. FUA of residence	Mandatory	36,842	100.0	Excellent
9. Municipality of residence	Mandatory	36,842	100.0	Excellent
10. Area of residence	Essential	35,934	97.5	Excellent
11. Type of disability/disorder	Essential	36,434	98.9	Excellent
12. Relationship with victim	Mandatory	35,123	95.3	Excellent
13. Code of the reporting unit	Mandatory	36,789	99.9	Excellent
14. FUA of occurrence	Mandatory	35,892	97.4	Excellent
15. Municipality of occurrence	Mandatory	35,653	96.8	Excellent
16. Type of violence	Mandatory	36,473	99.0	Excellent
17. Means of aggression	Essential	35,972	97.6	Excellent
18. Type of sexual violence	Essential	35,730	97.0	Excellent
19. Procedure performed	Essential	35,629	96.7	Excellent
20. Referral	Mandatory	35,294	95.8	Excellent
21. Issuance of Work Accident Report	Essential	36,038	97.8	Excellent
22. Date of closing	Essential	36,685	99.6	Excellent
23. Sex of aggressor	Mandatory	33,210	90.1	Good
24. Work-related violence	Essential	34,650	94.1	Good
25. Self-inflicted violence	Essential	34,964	94.9	Good
26. Number of involved	Essential	33,329	90.5	Good
27. Pregnant	Mandatory	32,980	89.5	Fair
28. Race/Ethnicity	Essential	32,110	87.2	Fair
29. Marital status	Essential	31,998	86.9	Fair
30. Disability/disorder	Essential	30,347	82.4	Fair
31. Area of occurrence	Essential	32,619	88.5	Fair
32. Location	Mandatory	32,294	87.7	Fair
33. Repeated occurrence	Essential	27,792	75.4	Fair
34. Education	Essential	24,774	67.2	Poor
35. Occupation	Essential	21,881	59.4	Poor
36. Time	Essential	22,290	60.5	Poor
37. Suspected alcohol use	Essential	23,074	62.6	Poor
38. Circumstances of injury	Essential	15,936	43.3	Very Poor

Source: Notifiable Diseases Information System (SINAN).

Note: *FU – Federative Units.

Table 2 - Completeness percentage and quality of fields/variables in compulsory notification forms on interpersonal and self-inflicted by year, Espírito Santo, Brazil, 2011 to 2018

Field/Variable	Completeness (%)							
	2011	2012	2013	2014	2015	2016	2017	2018
	N	N	N	N	N	N	N	N
	762	1,490	2,480	3,921	4,912	6,624	7,357	9,297
Type of notification	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FU ^a of notification	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Municipality of notification	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Date of occurrence	99.6	99.9	98.7	99.9	99.9	99.9	100.0	99.9
Date of birth	99.6	99.9	98.7	99.9	99.9	99.9	100.0	99.9
Age	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex of the victim	100.0	100.0	100.0	100.0	99.9	99.9	100.0	100.0
FU ^a of residence	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Municipality of residence	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Area of residence	97.1	96.6	96.5	97.0	96.0	97.4	98.4	98.4
Type of disability/disorder	97.6	98.1	94.5	97.5	99.1	99.5	99.6	99.8
FU ^a of occurrence	98.0	98.3	89.0	84.4	99.8	99.9	100	99.9
Municipality of Occurrence	95.8	95.4	86.4	82.3	99.6	99.9	99.9	99.8
Type of violence	99.1	99.7	95.2	96.9	99.0	99.6	99.8	99.7
Means of aggression	96.6	96.3	91.5	95.8	97.4	98.1	98.9	99.2
Type of sexual violence	96.7	89.4	80.4	90.5	99.5	99.7	99.8	99.9
Procedure performed	97.1	89.8	83.9	91.3	98.8	99.1	98.7	99.1
Relationship to the victim	93.6	97.1	86.9	89.9	95.2	96.5	96.2	98.3
Referral	98.6	97.7	93.6	91.4	91.5	95.9	98.0	98.2
Issuance of Work Accident Report	95.8	96.2	91.0	96.1	98.2	98.7	99.2	98.9
Date of closing	99.6	99.9	98.6	99.6	99.5	99.7	99.6	99.8
Code of the reporting unit	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.6
Self-inflicted violence	90.4	89.7	89.4	89.0	94.1	96.3	97.0	97.8
Number of people involved	90.3	92.7	83.5	86.4	86.8	88.6	92.3	95.5
Sex of aggressor	91.6	94.0	83.5	85.2	86.7	87.8	92.2	95.2
Work-related violence	94.9	95.4	85.6	89.0	92.1	95.3	96.2	96.6
Pregnant woman	89.2	85.8	85.1	87.8	88.6	90.5	89.2	92.1
Race/ethnicity	91.2	90.3	77.7	76.7	75.2	87.4	92.6	95.1
Marital status	94.6	92.8	84.8	79.6	85.5	88.6	88.6	87.0
Disability/disorder	83.1	84.2	74.0	70.8	77.9	84.8	85.4	87.4
Area of occurrence	91.6	89.8	71.3	78.0	87.6	91.1	91.4	93.6
Location	93.4	92.6	84.8	80.2	83.7	84.8	90.9	91.9
Repeated occurrence	78.2	77.7	75.0	70.5	69.9	70.2	79.6	80.3
Education	71.9	72.2	61.1	64.2	63.0	62.4	69.6	72.9
Occupation	64.4	59.9	56.5	57.4	59.9	56.5	59.7	62.1
Time	50.0	50.8	38.5	47.4	64.0	63.5	66.1	65.9
Suspected alcohol use	66.4	63.2	55.5	55.5	58.8	59.6	66.5	69.0
Circumstances of injury	38.6	34.6	23.9	26.1	35.3	50.1	51.1	50.6

Source: Notifiable Diseases Information System (SINAN).

Note: ^aFU – Federative Unit.

Table 3 - Completeness percentage and quality of fields/variables in compulsory notification forms on interpersonal and self-inflicted by victim age group, Espírito Santo, Brazil, 2011 – 2018

Fields	Children		Adolescents		Adults		Older adults		Mean	Quality
	(0-9 years old)		(10-19 years old)		(20-59 years old)		(60 years old or more)			
	N ^A = 3,316		N ^A = 9,066		N ^A = 22,536		N ^A = 1,925			
	n ^A	%	n ^A	%	n ^A	%	n ^A	%		
Type of notification	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
FUB of notification	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
Municipality of notification	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
Code of the reporting unit	3,309	99.8	9,051	99.8	22,505	99.9	1,924	99.9	99.8	Excellent
Date da occurrence	3,265	98.5	9,066	100.0	22,536	100.0	1,925	100.0	99.6	Excellent
Date of birth	3,265	98.5	9,066	100.0	22,535	100.0	1,915	99.5	99.5	Excellent
Age	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
Sex of the victim	3,315	100.0	9,064	100.0	22,530	100.0	1,925	100.0	100.0	Excellent
FUB of residence	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
Municipality of residence	3,316	100.0	9,066	100.0	22,536	100.0	1,925	100.0	100.0	Excellent
Area of residence	3,174	95.7	8,913	98.3	21,949	97.4	1,898	98.6	97.5	Excellent
Type of disability/disorder	3,213	96.9	8,983	99.1	22,335	99.1	1,903	98.9	98.5	Excellent
FUB of occurrence	3,196	96.4	8,841	97.5	21,984	97.6	1,871	97.2	97.1	Excellent
Municipality of occurrence	3,164	95.4	8,763	96.7	21,867	97.0	1,859	96.6	96.4	Excellent
Type of violence	3,250	98.0	9,022	99.5	22,285	98.9	1,916	99.5	98.9	Excellent
Means of aggression	3,084	93.0	8,840	97.5	22,157	98.3	1,891	98.2	96.7	Excellent
Type of sexual violence	3,181	95.9	8,869	97.8	21,781	96.7	1,899	98.7	97.2	Excellent
Procedure performed	3,254	98.1	8,759	96.6	21,722	96.4	1,894	98.4	97.3	Excellent
Referral	3,212	96.9	8,825	97.3	21,404	95.0	1,853	96.3	96.3	Excellent
Issuance of Work Accident Report	3,225	97.3	8,930	98.5	21,988	97.6	1,895	98.4	97.9	Excellent
Closing date	3,251	98.0	9,035	99.7	22,478	99.7	1,921	99.8	99.3	Excellent
Pregnant woman	3,299	99.5	8,166	90.1	19,798	87.9	1,717	89.2	91.6	Good
Area of occurrence	2,992	90.2	8,076	89.1	19,758	87.7	1,793	93.1	90.0	Good
Self-inflicted violence	3,183	96.0	8,648	95.4	21,331	94.7	1,802	93.6	94.9	Good
Relationship to the victim	3,139	94.7	8,622	95.1	21,534	95.6	1,828	95.0	95.1	Good
Work-related violence	3,169	95.6	8,623	95.1	21,046	93.4	1,812	94.1	94.5	Good
Race/ethnicity	2,796	84.3	7,860	86.7	19,741	87.6	1,713	89	86.9	Fair
Marital status	3,254	98.1	8,003	88.3	19,140	84.9	1,601	83.2	88.6	Fair
Disability/disorder	2,730	82.3	7,398	81.6	18,626	82.7	1,593	82.8	82.3	Fair
Location	2,855	86.1	7,847	86.6	19,861	88.1	1,731	89.9	87.6	Fair
Number of people involved	2,846	85.8	7,926	87.4	20,764	92.1	1,793	93.1	89.6	Fair
Sex of the aggressor	2,873	86.6	7,922	87.4	20,715	91.9	1,700	88.3	88.5	Fair
Education	3,025	91.2	5,927	65.4	14,669	65.1	1,153	59.9	70.4	Poor
Occupation	1,206	36.4	5,676	62.6	13,671	60.7	1,328	69.0	57.2	Poor
Time	1,523	45.9	5,440	60.0	14,132	62.7	1,195	62.1	57.6	Poor
Repeated occurrence	1,912	57.7	6,846	75.5	17,519	77.7	1,515	78.7	72.4	Poor
Suspected alcohol use	1,544	46.6	5,108	56.3	15,207	67.5	1,215	63.1	58.3	Poor
Circumstances of injury	2,004	60.4	4,430	48.9	8,566	38.0	936	48.6	48.9	Very poor

Source: Notifiable Diseases Information System (SINAN).

Note: ^AN - Number; ^BFU - Federative Unit.

completion is not mandatory for entering the notification into the system⁽¹⁷⁾. This flaw hinders the identification and correction of data inconsistencies in information systems, which is crucial for increasing the reliability of information, enhancing the accuracy of indicators, and optimizing the planning of actions aimed at the health of the Brazilian population⁽¹⁷⁾. In this context, there is an urgent need to reevaluate the classification of fields (mandatory, essential, and key) on the violence notification form. All variables relevant to identifying and correcting data inconsistencies should be made mandatory, and the existing blocking mechanism that requires completion of mandatory fields before progression should be improved.

Regarding the variables that identify the personal characteristics of victims, the “sex” and “age” fields showed an excellent degree of completeness, which can be explained by their ease of completion. Furthermore, these variables are mandatory in SINAN and inform the planning of strategies to address factors contributing to violence for each target population⁽¹⁷⁾.

Regarding violence against girls and pregnant women, the “pregnant” field was rated to have fair completeness. Completing this field is crucial for planning care for this group. Besides posing risks to the woman or girl, violence in these cases also affects the baby, increasing fetal morbidity and mortality. Therefore, prenatal care professionals, especially nurses and physicians, need to adopt a broader approach to identify the physical and emotional signs of violence experienced by pregnant women. Multidisciplinary care should be implemented to alleviate the suffering of the mother-baby pair, contribute to case reporting, and, consequently, reflect the reality experienced by this population. It is worth emphasizing that prenatal care is the first point of contact for screening vulnerability and identifying violence⁽²³⁾.

Another important variable for assessing social inequality and describing situations of greater vulnerability is “education.” In this study, the completeness of this field was rated poor. Information on education level is essential for designing health policies. This variable is associated with developing skills and competencies that enable individuals to question their surroundings rather than remain complacent with established situations, thus, fostering greater awareness of their rights⁽²⁴⁾.

The completeness of the race/ethnicity field was rated fair. This is a cause for concern, as such incompleteness compromises the quality of the information and reflects a limited understanding of the health-illness-care process and ethnic-racial inequities⁽²⁵⁾. The implementation of this variable remains incipient and depends on institutional changes that promote its effectiveness⁽²⁶⁾. Therefore, training health professionals in this area is essential, as is investment in educational, social, housing, safety, and labor policies to eliminate the inequalities and vulnerabilities of the Black Brazilian population⁽²⁷⁾.

The records for the “residence data” variable were completed at a good level. This field is also important for surveillance purposes, as it enables mapping the residences of victims of violence and conducting active searches in the area when necessary. Furthermore, it facilitates victims’ referrals to the healthcare network at the municipal,

state, and federal levels and provides insight into the health situation in the area. A high number of notifications from a specific location may indicate greater sensitivity of health services to reporting or a higher prevalence of violence. Regardless of the explanation, both should be analyzed by local administrators to better understand the context underlying the increase in notifications.

The “victim’s data” section presented a fair degree of completeness, a finding also reported in a study conducted in 2014⁽¹⁷⁾. Specifically, the variables “has a disability/disorder” and “type of disability” showed poor and fair completeness, respectively. These fields are essential for ensuring appropriate care for people with disabilities. Moreover, information on the types of disabilities in a given location or region supports managerial decision-making, enabling more effective actions to prevent violence in this population group and reduce their vulnerability⁽²⁸⁾.

The completeness of variables in the “occurrence data” field was rated poor. Specifically, the “occurrence time” and “repeated occurrence” fields also showed poor completeness. The lack of complete information for these variables makes it difficult to understand the profile of violence and hinders the provision of healthcare to victims.

The lack of information, especially in the “repeated occurrence” field, hinders decision-making by health professionals and managers, as it limits the ability to identify revictimization in situations of violence. Such recurrence exacerbates the victim’s physical and mental health⁽²⁹⁾.

The unsatisfactory completeness of these two variables was also observed in reports of violence against children, which may be explained by the difficulties this age group faces in reporting events, particularly when specifying the approximate time of the aggressor’s actions and the number of episodes of violence experienced.

Regarding the completeness of “probable perpetrator data” section, the field “relationship/degree of kinship with the victim” was rated as good. Notably, compared to other age groups, child abuse notification forms showed lower completeness in this field. This may be because the perpetrators are largely family members or acquaintances. Such relationships influence the decisions of the child’s legal guardians when disclosing the perpetrators of violence, as well as the dependence and fear experienced by the victim toward their aggressors⁽³⁰⁾.

The “suspected alcohol use” field showed poor completeness, despite its importance for understanding episodes of violence. Alcohol use by the aggressor is consistently associated with greater severity of acts and a significantly higher likelihood of physical aggression⁽³¹⁾. Acute alcohol consumption also impairs judgment and reduces inhibitory control, which may facilitate the onset of violence⁽³²⁾.

In this sense, the variable “circumstance of injury (ICD 10, Chapter XX),” which showed very poor completeness, also negatively impacts violence prevention and response policies. This field classifies the cause and circumstances of the violence experienced by the victim rather than the nature of the injury.

Factors such as lack of knowledge about the condition, insuffi-

cient training, and the perception of the form as a merely bureaucratic task can adversely affect data quality, contributing to this situation⁽³³⁾.

Therefore, it is crucial to strengthen training and capacity-building strategies for professionals, from their academic preparation to their entry into service, in addition to conducting ongoing data quality assessments. Furthermore, there is a need to review and improve notification software to reduce errors in completing the form.

The essential role of nurses in reporting cases, improving database quality, and providing comprehensive care to victims should be emphasized. Strengthening their autonomy and performance, especially in health surveillance, is crucial for improving the quality of information and the delivery of care.

Finally, generating high-quality data is essential to support public policies for the prevention and response to violence and to build comprehensive, intersectoral care capable of addressing the complexity of this problem.

As a limitation of this study, we note the failure to analyze all variables contained in the notification form. However, the results highlight the importance of professional training in completing the notification form, the recognition of this form as a tool for integrating victims into the protection and care network, and the role of notification in producing essential data for developing policies to address different types of violence.

CONCLUSION

The completeness of 38 of the 69 fields on the SINAN notification form in the state of Espírito Santo between 2011 and 2018 was, for the most part, classified as good or excellent.

This result highlights the potential of this database for analyzing interpersonal and self-inflicted violence in different vulnerable groups, and for planning and evaluating actions at the territorial level.

However, the lack of completion of several mandatory variables demonstrates weaknesses in the notification process and can compromise the effectiveness of actions to prevent violence.

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