

PREVALENCE OF HUMAN HEALTH CONDITIONS RELATED TO ANIMALS IN A MUNICIPALITY IN THE INTERIOR OF BAHIA, NORTHEAST BRAZIL: PROPHYLACTIC MEASURES AND TREATMENT

Priscylla Marcelly Vilanova Oliveira do Nascimento¹
Aristeu Vieira da Silva²

ABSTRACT

Brazilian Ministry of Health recommends that anyone with a history of exposure to potentially rabies-transmitting animal accidents should seek medical assistance. Inadequate treatment recommendations can expose patients to adverse events. This study aimed to analyze the epidemiological and sociodemographic characteristics of human rabies treatment in the municipality of Feira de Santana from 2008 to 2019. Variables related to the characteristics of animal-inflicted injuries and the sociodemographic profile of the treated population were analyzed based on Notifiable Disease Information System records and associated with epidemiological profile characterization variables. The indicated treatments were classified as either appropriate or inappropriate according to the type of exposure and the association with the severity of the injury, as well as treatment abandonment. According to the results, most cases involved individuals aged 20 to 39 years (28.20%), male (51.05%), mixed-race (80.95%), with incomplete elementary education (49.61%), and residing in urban areas (90.97%). Attacks by carnivorous animals were the most frequent, with bites accounting for 94.58% of exposures. Treatment for severe accidents involving domestic animals, such as suspected rabies cases and rabid, missing, or deceased animals, was considered inadequate. Additionally, 131 cases were reported where patients interrupted any type of recommended treatment. In conclusion, these results highlight the continuous need for appropriate prevention and monitoring strategies and the development of effective measures to prevent treatment abandonment.

Keywords: Injuries; Prophylactic Measures; Post-exposure; Epidemiological Surveillance

PREVALÊNCIA DE AGRAVOS HUMANOS RELACIONADOS A ANIMAIS EM UM MUNICÍPIO DO INTERIOR DA BAHIA, NORDESTE DO BRASIL: MEDIDAS PROFILÁTICAS E ABANDONO DE TRATAMENTO

RESUMO

O Ministério da Saúde do Brasil recomenda que qualquer pessoa com histórico de exposição a acidentes com animais potencialmente transmissores da raiva busque assistência médica. Recomendações inadequadas de tratamento podem expor os pacientes a eventos adversos. Este estudo teve como objetivo analisar as características epidemiológicas e sociodemográficas do tratamento antirrábico humano no município de Feira de Santana entre 2008 e 2019. Foram analisadas variáveis relacionadas com as características dos agravos provocados por animais e o perfil sociodemográfico da população atendida, com base nos registros do Sistema de Informação de Doenças de Notificação, e essas variáveis foram associadas ao perfil epidemiológico. Os tratamentos indicados foram classificados como adequados ou inadequados, de acordo com o tipo de exposição, a associação com a gravidade dos agravos e

¹ State University of Feira de Santana / Graduate Program in Modeling in Earth and Environmental Sciences, Research Group on Zoonoses and Public Health. *Correspondência: priscyllamarcellyuefs@gmail.com

² State University of Feira de Santana / Graduate Program in Modeling in Earth and Environmental Sciences, Research Group on Zoonoses and Public Health. aristeuvsilva@uefs.br

o abandono do tratamento. De acordo com os resultados, a maioria dos casos envolveu indivíduos com idades entre 20 e 39 anos (28,20%), do sexo masculino (51,05%), pardos (80,95%), com ensino fundamental incompleto (49,61%) e residentes em áreas urbanas (90,97%). Os ataques por animais carnívoros foram os mais frequentes, sendo as mordeduras responsáveis por 94,58% das exposições. Considerou-se inadequado o tratamento para acidentes graves com animais domésticos, como casos suspeitos de raiva e animais raivosos, desaparecidos ou mortos. Além disso, foram registrados 131 casos nos quais os pacientes interromperam qualquer tipo de tratamento recomendado. Em conclusão, esses resultados destacam a necessidade contínua de estratégias adequadas de prevenção, monitoramento, e vigilância epidemiológica, bem como o desenvolvimento de medidas eficazes para evitar o abandono do tratamento.

Palavra-chave: Agravos; Conduta Profilática; Pós exposição; Vigilância Epidemiológica

PREVALENCIA DE AFECCIONES HUMANAS RELACIONADAS CON ANIMALES EN UN MUNICIPIO DEL INTERIOR DE BAHÍA, NORESTE DE BRASIL: MEDIDAS PREVENTIVAS Y ABANDONO DEL TRATAMIENTO

RESUMEN

El Ministerio de Salud de Brasil recomienda que cualquier persona con antecedentes de exposición a accidentes con animales potencialmente transmisores de la rabia busque asistencia médica. Las recomendaciones inadecuadas de tratamiento pueden exponer a los pacientes a eventos adversos. Este estudio tuvo como objetivo analizar las características epidemiológicas y sociodemográficas del tratamiento antirrábico humano en el municipio de Feira de Santana entre 2008 y 2019. Se analizaron variables relacionadas con las características de los agravamientos provocados por animales y el perfil sociodemográfico de la población atendida, con base en los registros del Sistema de Información de Enfermedades de Notificación, y se asociaron con variables de caracterización del perfil epidemiológico. Los tratamientos indicados se clasificaron como adecuados o inadecuados según el tipo de exposición, la asociación con la gravedad del agravamientos y el abandono del tratamiento. Según los resultados, la mayoría de los casos involucró a individuos de entre 20 y 39 años (28,20%), de sexo masculino (51,05%), mestizos (80,95%), con educación primaria incompleta (49,61%) y residentes en áreas urbanas (90,97%). Los ataques por animales carnívoros fueron los más frecuentes, siendo las mordeduras responsables del 94,58% de las exposiciones. Se consideró inadecuado el tratamiento para accidentes graves con animales domésticos, como casos sospechosos de rabia y animales rabiosos, desaparecidos o muertos. Además, se registraron 131 casos en los que los pacientes interrumpieron cualquier tipo de tratamiento recomendado. En conclusión, estos resultados resaltan la necesidad continua de estrategias adecuadas de prevención y monitoreo, así como el desarrollo de medidas eficaces para evitar el abandono del tratamiento.

Palabras clave: Agravamientos; Medidas profilácticas; Post-exposición; Vigilancia epidemiológica

INTRODUCTION

The purpose of the Brazilian Notifiable Diseases Information System (SINAN) is to register and process data on notifiable diseases throughout the national territory, providing information for analyzing the morbidity profile and contributing to decision-making at the

municipal, state, and federal levels¹ The Ministry of Health (MS) recommends that anyone with a history of exposure to potentially rabies-transmitting animal accidents should seek medical assistance and, depending on the evaluation, receive vaccination, serovaccination, or observation of the animal when possible².

Pre-exposure prophylaxis is indicated for individuals at risk of permanent exposure to the rabies virus, such as healthcare professionals like veterinarians, biologists, zoo employees, people who work with wildlife, and others in high-risk areas. This also includes laboratory professionals in virology and anatomopathology for rabies³.

Antirabies treatment is of utmost importance and may range from simple wound cleaning with soap and water to complete treatment with serum and vaccine^{4,5}. Prophylaxis for potentially infected individuals must be administered promptly as a medical urgency, and the treatment should be initiated as soon as possible. Post-exposure prophylaxis is highly effective when the treatment is promptly administered, including wound care and appropriate vaccination. Serum should only be used in severe cases where the domestic animal has disappeared, died, or become rabid; in cases of animals clinically suspected of rabies at the time of the attack; or in severe accidents involving wild or production animals⁶.

Incomplete treatments do not guarantee immunization and can compromise the patient's survival. Unfortunately, many cases are reported regarding treatment abandonment⁷, and deaths continue to be reported due to incomplete, insufficient, or delayed treatments^{8,9}.

Classification of the accident depends on the characteristics of the wound, such as depth, location, extent, and number of lesions on the body. Inadequate treatment recommendations not only expose the patient to adverse events but also constitute a waste of public resources, reflecting on the quality of healthcare¹⁰. In Brazil, health surveillance and both human and animal immunization are the foundations of the disease control program. However, the epidemiological data generated are not processed, evaluated, configured, and transmitted to the system components in a timely manner for adequate decision-making¹¹.

In this context, this study aimed to analyze the epidemiological and sociodemographic characteristics of human rabies treatment in the municipality of Feira de Santana from 2008 to 2019 and its association with treatment abandonment.

METHODOLOGY

The study is characterized as observational, descriptive, and retrospective, based on the consultation and analysis of records from the standardized Investigation Form in the database of the Notifiable Diseases Information System (SINAN). Data on human antirabies treatments according to prophylactic measures were associated with epidemiological and sociodemographic characteristics of the affected population.

Study Area:

Feira de Santana municipality is located in the central-northern region of the State of Bahia, 109 km away from the capital, Salvador, at an altitude of 257 meters above sea level. According to the Brazilian Institute of Geography and Statistics (IBGE)¹², the estimated total population in 2021 was 624,107 inhabitants distributed over an area of 1,304.425 km², with a population density of 416.03 inhabitants/km². The municipality comprises 44 neighborhoods and nine districts: Feira de Santana (the main district), Bonfim de Feira, and Governador João Durval Carneiro to the west; Humildes to the south; Jaíba to the east; and Jaguara, Maria Quitéria, Matinha, and Tiquarucu to the north.

Database and Variables:

Data from SINAN were retrieved for the period from 2008 to 2019. Notifications of individuals possibly exposed to the rabies virus due to bites, mucosa licking, or scratches caused by different animal species were considered for post-exposure prophylaxis. Variables related to the characteristics of the animal-inflicted wound, animal condition, indicated treatment, and treatment continuity were analyzed. Variables used to characterize the disease included the nature of the exposure (type, location, extent, and type of wound), the aggressor animal (animal condition for treatment decisions and final condition of the animal), treatment (type of prophylaxis indicated, treatment interruption, reasons for interruption, active search for patients with treatment abandonment), and sociodemographic characteristics of the treated population based on SINAN records, associated with epidemiological profile characterization: neighborhood, sex, age group, education, occupation, and income.

Blank, missing, and notifications from 2020 and 2021 were excluded from the database. The variables were transformed, replacing the numbered categories with codes or names using the Ministry of Health's dictionary to identify each variable.

Data Analysis:

Regarding the profile of the diseases and antirabies treatment, the studied variables included the profile of the treated individuals (sex, age group, pregnancy status, education, and residence area), epidemiological history (type of exposure, wound location, wound type, multiple or single wound, animal species, animal condition), and current prophylaxis (final condition of the animal, type of treatment, treatment interruption, reasons for interruption, treatment abandonment, and indication of serum). Post-exposure prophylaxis treatments for human antirabies were classified as untreated (treatment waiver and animal observation), pre-exposure, post-exposure (observation + vaccine, vaccine, serum, and vaccine), and re-exposure schemes, tabulated with the epidemiological and sociodemographic profile variables.

To represent the indicated treatment as adequate or inadequate, post-exposure prophylaxis treatments were classified according to the type of exposure, following the Ministry of Health's guidelines: indirect contact, mild accidents, severe accidents, and accidents involving wild animals. Indirect contact included cases involving the handling of potentially contaminated objects and skin licking with no injuries, as well as needle accidents during animal vaccination. Mild accidents refer to superficial, small, usually single wounds on the trunk and limbs, resulting from bites, scratches by nails or teeth, and superficial skin licking. Severe accidents include wounds on the head, face, neck, hands, and feet, deep or multiple wounds in any part of the body, mucosa licking, and deep wounds caused by animal nails¹³. Inadequate treatment cases were further reclassified as 'insufficient' or 'excessive,' indicating that they did not comply with established guidelines, either due to insufficient or excessive measures^{14,15}.

The association between the severity of the disease and treatment abandonment with epidemiological variables was analyzed using Pearson's χ^2 test with continuity correction in contingency tables. Variables with P-values less than 0.2 were reassessed through backward stepwise logistic regression, evaluating the statistical significance of each variable's exclusion using the Hosmer-Lemeshow test-adjusted likelihood ratio. Excel 2016^{®16} and EpiInfo 7¹⁷ software were used for all analyses, considering a significance level of 5%.

Ethical Aspects:

Data from SINAN were retrieved without individuals' names who underwent antirabies treatment, ensuring compliance with the guidelines of the National Health Council Resolution 466/12², which specifies and expands requirements for participants' protection in research, ensuring confidentiality and privacy. Access to the database was granted through a formal request to the Health Department of Feira de Santana and authorized by the Research Ethics Committee (CAAE no. 51127321.2.0000.0053; Opinion no. 5.252.767 from the State University of Feira de Santana).

RESULTS

Between 2008 and 2021, SINAN reported 27,071 notifications of animal-related injuries to humans in Feira de Santana. However, due to a substantial decrease in notifications during 2020 and 2021, possibly due to underreporting caused by the COVID-19 pandemic, those years were excluded from the analysis. The study focused on cases reported between 2008 and 2019, resulting in 25,448 analyzed cases after excluding 143 due to potential data inconsistencies.

The majority of affected individuals were in the age group of 20 to 39 years (n=6,687; 28.20%; 95% CI: 27.63-28.78), male (n=13,061; 51.05%; 95% CI: 50.44-51.66), mixed-race (n=20,682; 80.95%; 95% CI: 80.46-81.42), with incomplete elementary education (n=9,624; 49.61%; 95% CI: 48.90-50.31), and residing in urban areas (n=22,977; 90.97%; 95% CI: 90.61-91.32), as shown in Table 1.

Table 1. Absolute (Fi) and relative (fi) frequencies for sociodemographic profile variables of individuals referred for rabies treatment, overall and according to the treatment procedure employed. Feira de Santana, Bahia. 2008-2019.

	Total		Não tratado		Vacina		Soro e Vacina		Esquema de reexposição		Pré exposição	
Sexo	Fi	fi	Fi	fi	Fi	fi	Fi	fi	Fi	fi	Fi	fi
Female	12.524	48.95	9.495	76.22	2170	17.42	713	5.72	6	0.05	73	0.59
Male	13.061	51.05	9.805	75.50	2416	18.60	691	5.32	6	0.05	68	0.52
Age group												
0-9	4.418	18.63	3.449	78.48	828	18.84	89	2.03	2	0.05	27	0.61
10-19	3.414	14.40	2.744	80.71	506	14.88	132	3.88	1	0.03	17	0.50
20-39	6.687	28.20	4.725	71.08	1339	20.14	537	8.08	5	0.08	41	0.62
40-59	5.897	24.87	4.376	74.69	1062	18.13	392	6.69	3	0.05	26	0.44
60-79	2.883	12.16	2.271	79.02	454	15.80	132	4.59	1	0.03	16	0.56
80 e +	411	1.73	329	80.84	63	15.48	13	3.19	0	0.00	2	0.49
Pregnant												
No	7888	98.21	6.023	76.36	1431	18.14	384	4.87	1	0.01	49	0.62
Yes	144	1.79	110	76.39	26	18.06	6	4.17	0	0.00	2	1.39
Race												
Asian	69	0.27	38	55.07	9	13.04	22	31.88	0	0.00	0	0.00
White	1745	6.83	1.230	71.02	400	23.09	91	5.25	0	0.00	11	0.64
Unknown	633	2.48	417	67.80	67	10.89	128	20.81	0	0.00	3	0.49
Indigenous	39	0.15	29	74.36	7	17.95	2	5.13	0	0.00	1	2.56
Brown	20682	80.95	15.674	76.16	3707	18.01	1079	5.24	11	0.05	110	0.53
Black	2382	9.32	1.897	79.97	383	16.15	75	3.16	1	0.04	16	0.67
Educational attainment												
E. F. I	9624	49.61	7.267	75.95	1722	18.00	526	5.50	1	0.01	52	0.54
E. F. C	643	3.31	478	74.92	126	19.75	30	4.70	0	0.00	4	0.63
E.M.C	5694	29.35	4.310	76.18	1024	18.10	293	5.18	2	0.04	29	0.51
E.M. I	1683	8.67	1.281	76.48	290	17.31	90	5.37	1	0.06	13	0.78
E. S. I	926	4.77	701	75.95	162	17.55	57	6.18	0	0.00	3	0.33
E. S. C	831	4.28	619	74.67	155	18.70	52	6.27	0	0.00	3	0.36
Zone												
Rural	2281	9.03	1.820	80.18	327	14.41	109	4.80	1	0.04	13	0.57
Urban	22977	90.97	17.247	75.49	4198	18.37	1265	5.54	11	0.05	126	0.55

Out of the reported injuries, 19,304 (75.86%; 95% CI: 75.32-76.37) did not receive any treatment. Those who received treatment were 5,989 (23.55%; 95% CI: 23.04-24.08), with 4,587 (76.65%; 95% CI: 75.55-75.73) receiving only a vaccine, 1,404 (22.85%; 95% CI: 21.81-23.91) receiving vaccine and serum, and 12 (0.19%; 95% CI: 0.11-0.34) following a re-exposure scheme. Pre-exposure prophylaxis was reported in 141 cases (22.94%; 95% CI: 19.49-27.00). Attacks by carnivorous animals were the most frequent, as shown in Table 2.

Table 2. Absolute (Fi) and relative (fi) frequencies of individuals referred for rabies treatment, categorized by the indicated prophylactic measures and the type of animal species involved in the incident. Feira de Santana, Bahia. 2008-2019.

Severe accidents with domestic animals without suspicion of rabies		
	N	%
Adequate	13156	86.43
Insufficient	2066	13.57
	Adequate	Insufficient
Treatment waiver		0.16
Animal observation	85.98	
Observation + vaccine		11.9
Vaccine		1.51
Serum and vaccine	0.45	
Severe accidents with domestic animals suspected of rabies		
	N	%
Adequate	87	28.16
Insufficient	222	71.84
	Adequate	Insufficient
Treatment waiver		2.27
Animal observation		30.74
Observation + vaccine		11
Vaccine		27.83
Serum and vaccine	28.16	
Severe accidents with domestic animals with rabid, missing, or deceased		
	N	%
Adequate	509	28.87
Insufficient	1254	71.13
	Adequate	Insufficient
Treatment waiver		3.29
Animal observation		2.27
Observation + vaccine		4.65
Vaccine		60.92
Serum and vaccine	28.87	
Accidents involving wild animals		
	N	%
Adequate	316	71.98
Insufficient	123	28.01
	Adequate	Insufficient
Treatment waiver		2.05
Animal observation		2.73
Observation + vaccine		1.82
Vaccine		21.41
Serum and vaccine	71.98	

Regarding epidemiological antecedents, bites accounted for 24,170 (94.58%; 95% CI: 94.29-94.85), being the most common type of exposure, followed by scratches ($n=1,660$; 4.53%; 95% CI: 4.29-4.80). Wounds on the lower limbs represented 13,105 (51.62%; 95% CI: 14.70-15.58), and injuries on hands and feet were 7,143 (28.13%; 95% CI: 27.58-28.69). In 17,650 cases (70.34%; 95% CI: 69.77-70.90), the wound was singular, and 12,414 (49.96%; 95% CI: 49.34-50.38) were superficial lesions. The animal's condition was registered as healthy in 21,350 cases (84.64%; 95% CI: 84.14-85.08), and the animal's final condition was negative for clinical rabies in 25,503 cases (87.03%; 95% CI: 86.60-87.44).

Considering individuals referred for antirabies treatment according to the recommended prophylactic measures, out of 24,323 notification forms, 70 (0.28%; 95% CI: 0.22-0.36) were classified as indirect contact, 6,520 (26.80%; 95% CI: 26.25-27.36) as mild accidents with domestic animals, 17,294 (71.10%; 95% CI: 70.52-71.66) as severe accidents with domestic animals, and 439 (1.80%; 95% CI: 1.64-1.98) as accidents involving wild animals, as shown in Figure 1.

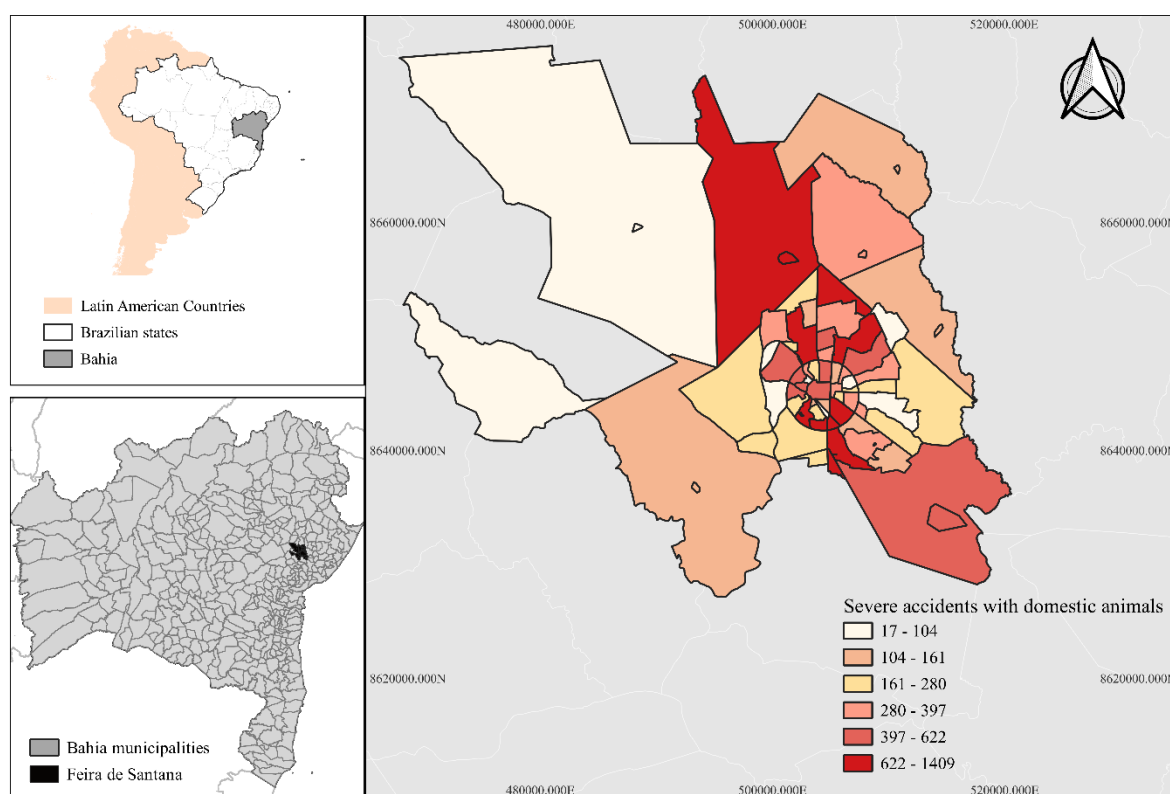


Figure 1. Absolute frequency of severe accidents with domestic animals suspected of rabies according to neighborhood in Feira de Santana, BA. 2008-2019.

Regarding the indicated treatment for those with indirect contact, the prophylactic measures considered inadequate were observations of the animal, observation and vaccine, and vaccine and serum + vaccine ($n=60$; 85.71%; 95% CI: 75.61-92.00). Among mild accidents with domestic animals without suspicion of rabies, the indicated prophylactic measures considered appropriate were observation of the animal, observation, and vaccine, totaling 5,578 cases (98.36%; 95% CI: 97.99-98.65). For mild accidents with domestic animals suspected of rabies, 45 cases (54.21%; 95% CI: 43.52-64.53) had appropriate prophylactic measures (observation only, observation + vaccine, or vaccine only), and for mild accidents with rabid,

missing, or deceased domestic animals, the measures were considered adequate in 643 cases (83.94%; 95% CI: 81.17-86.36).

Regarding severe accidents with domestic animals without suspicion of rabies (Figure 2), 13,156 cases (86.42%; 95% CI: 98.11-98.52) were considered adequate (animal observation, serum, and vaccine). Among severe accidents with domestic animals suspected of rabies, 222 cases (71.84%; 95% CI: 66.57-76.56) had inadequate or insufficient prophylactic measures (treatment waiver, animal observation, observation + vaccine, and vaccine only), while for severe accidents with rabid, missing, or deceased domestic animals, 1,254 cases (71.12%; 95% CI: 68.96-73.19) were classified as inadequate or insufficient. For accidents involving wild animals (n=316; 71.98%; 95%CI: 67.59-75.97), the prophylactic measures were classified as adequate (serum and vaccine). as shown in Table 3 and Figure 2.

Table 3. Absolute Frequency (Fi) and Relative Frequency (fi) of Individuals Referred for Rabies Treatment, Categorized by Severe Incidents and Incidents Involving Wild Animals in Feira de Santana, Bahia, 2008-2019.

Type of animal species involved in the incident	Untreated		Vaccine		Serum and Vaccine		Re-exposure scheme		Pre-exposure		TOTAL	
	Fi	fi	Fi	fi	Fi	fi	Fi	fi	Fi	fi	Fi	fi
Carnivorous	19220	77.39	4431	17.84	1049	4.22	9	0.04	127	0.51	24836	97.69
Herbivorous	47	39.83	45	38.14	21	17.80	0	0.00	5	4.24	118	0.46
Wild	21	4.69	102	22.77	316	70.54	3	0.67	6	1.34	448	100.00
Synanthropic	6	30.00	4	20.00	9	45.00	0	0.00	1	5.00	20	0.08
Total	19294	75.89	4582	18.02	1395	5.49	12	0.05	139	0.55	25422	

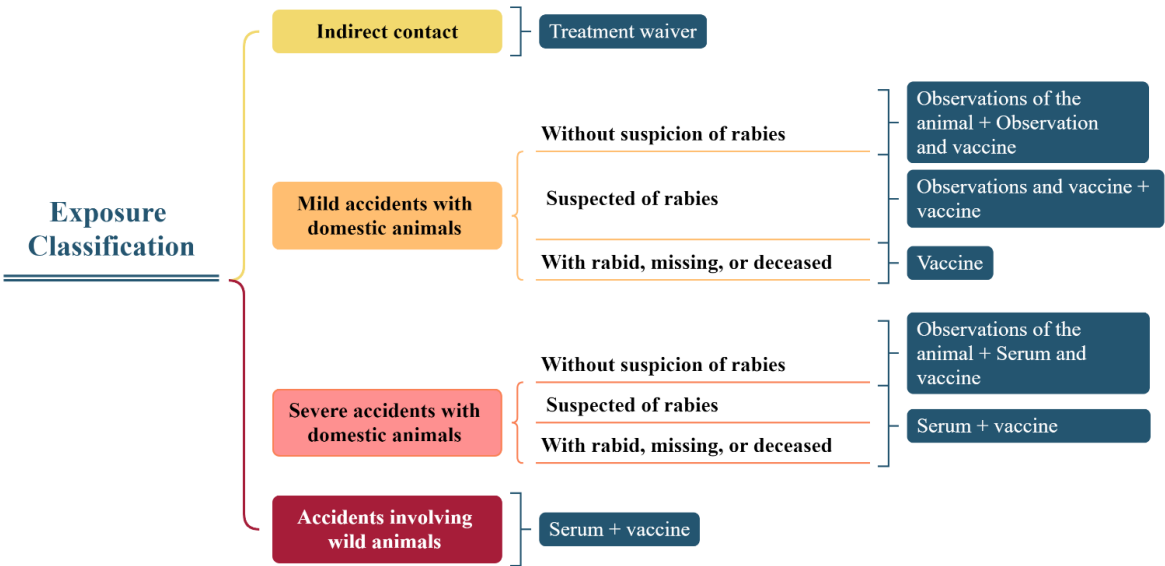


Figure 2. Classification of 24.323 indications of treatments for human injuries caused by animals reported in Feira de Santana, Bahia, from 2008 to 2019.

Prevalence of animal-related injuries,

Regarding the interruption of human antirabies treatment, 5,366 individuals (97.18%; 95% CI: 97.18-97.99) did not interrupt any recommended treatment. On the other hand, 131

notifications (2.38%; 95% CI: 2.01-2.82) indicated treatment interruption. Among those, 85 cases (64.89%; 95% CI: 56.06-73.02) were due to abandonment, 39 cases (29.77%; 95% CI: 22.10-38.38) due to Health Unit recommendation, and seven cases (5.34%; 95% CI: 2.18-10.70) were due to transfer. In 74 cases (92.50%; 95% CI: 84.39-97.20), the Health Unit actively searched for the patients, and no association was found between epidemiological variables and treatment interruption due to abandonment.

DISCUSSION

There was a predominance of male individuals in the care, often reported to be due to playful behavior and actions that provoke aggressive reactions from animals¹⁸. It is possible that adults, especially men, are more susceptible to such attacks in their daily activities, such as leisure and spending more time in public places. The age group of 20 to 39 years old corresponded to young adults, like another studies¹⁹⁻²¹.

People with incomplete elementary education were the most affected. Educational level is an indicator of socioeconomic status directly associated with the risk of animal-related injuries. Lower education levels are often associated with lower purchasing power and less access to qualified information^{22,23}.

There was a higher concentration in urban areas, which corroborates with some studies²⁴⁻²⁶, probably due to easier access to healthcare services and facilitating notifications.

The most frequently reported cases were bites, with superficial injuries in the lower limbs and single wounds. According to the Ministry of Health, bites are considered the most common type of exposure in notifications, as aggressive animals like dogs tend to resort to biting as a form of self-defense.

In most cases of people involved in animal-related injuries, observation and treatment exemption were conducted, preventing unnecessary prescription of treatments, reducing the possibility of adverse reactions, and saving public expenses^{10,19,27}.

Among those who received treatment, the majority received only vaccines, although this is an appropriate measure only for dogs and cats that can be observed or in cases of mild accidents¹³.

The location, type of injury, and condition of the animal at the time of the attack are necessary to classify the accidents as mild or severe, considering the action of the virus in the central nervous system and guiding post-exposure prophylaxis¹⁴.

The importance of recognizing the aggressor species in anti-rabies accidents will determine the approach for the case²⁷.

Although the prophylactic measures were appropriately indicated in most cases of post-exposure human antirabies treatment, some treatments performed at healthcare units were inappropriate for the type of aggression, such as excessive treatment for indirect contact accidents, contrary to the Ministry of Health recommendations.

Corroborating with the study in Ceará from 2007 to 2015, which suggests an insecurity in prescriptions by healthcare professionals, where inadequate and excessive conduct was found for indirect contact accidents²⁸.

For severe accidents involving domestic animals (suspected of rabies and rabid, missing, and dead) and those involving wild animals, the indicated treatment was insufficient, as complete post-exposure prophylaxis with vaccine and rabies immune globulin is necessary, according to the Ministry of Health.

In a study in Brazil from 2014 to 2019, it was found that most of the reported cases had appropriate prophylactic conduct, but inadequate indications were observed, which, when insufficient, can lead to cases of human rabies¹⁵.

Regarding treatment interruption, the main reason for non-completion of treatment was abandonment, and the health unit sought most individuals. According to the Ministry of Health, the indicated vaccination schedule must be strictly followed, and treatment interruption is the sole responsibility of healthcare professionals. Patients should not abandon or interrupt antirabies treatment on their own, as this increases the risk of contracting the disease due to an insufficient number of doses for immunization².

Some research reports identified reasons for treatment abandonment, such as transportation expenses, loss of work hours, and, in the case of children, the need for a guardian's presence. Additionally, the lack of guidance from healthcare professionals about the importance of completing the treatment was like what was found in this study^{7,20}.

According to Menezes²⁵ in the state of Tocantins from 2013 to 2015, among the interrupted treatments, more than half were due to patient abandonment, corroborating the results found, where people do not follow the prescribed prophylaxis, and even with active search by the healthcare unit's team in most cases, it is not being efficiently conducted.

Another reason identified in a study in Porto Alegre, in the state of Rio Grande do Sul, is that in most confirmed cases of abandonment, it was related to patients' lack of understanding of the importance of prophylactic treatment. They had transferred the completion of the indicated vaccination schedule to another healthcare service, and this information was not communicated to the competent professionals, resulting in updates and, consequently, failures in the SINAN feedback²⁰.

The location of healthcare units is one of the reasons that may also be associated with treatment interruption, as abandonment occurs due to the distance from patients' residences. A better active search is needed in these cases for investigation, as they may generate situations of risk to individuals.

CONCLUSION

In this study, anti-rabies incidents in the municipality of Feira de Santana, Bahia, presented the following epidemiological and sociodemographic profile: individuals aged 20 to 39 years old, male, mixed race, with incomplete elementary education, and residents of urban areas, with dog bites being the most frequent, often resulting in single wounds. The prophylactic approach to indirect contact incidents was considered excessive, while incidents involving severe domestic animal bites and those with wild animal involvement showed appropriate responses, although some cases were insufficient. There was a small number of cases that discontinued treatment, and the reason was abandonment, with active search by health units in most cases, with no association found between epidemiological variables and treatment interruption. It emphasizes the continuous need for proper prevention and monitoring and the development of effective strategies to prevent treatment interruption, including awareness and ongoing support for patients.

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