



Animal's Attacks: Epidemiological situation in Rosario city. Year 2012

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Introduction

In today's society there is an important and varied form of relationships between animals and men. This animal-man relation promotes benefits including treating animals as pets, therapeutic, recreational and safety purposes; also poses risks or threats to human health in the transmission of diseases, pollution by garbage bags breaks or presence of animal drooping, traffic accidents, uncontrolled reproduction, and bite injuries.

There is a growing interest in the study of this coexistence and among

the less favorable consequences we observe that the number of dog attacks on human is higher than those made by others animals ⁽¹⁾⁽²⁾.

Bite traumas are a cause of veterinary consultation ⁽³⁾ and bites on humans – especially children ⁽⁴⁾ – are considered a public health problem, since they may involve the transmission of zoonotic diseases, such as rabies, different types of infections, physical/psychological damage, and economics costs that may deeply impact the community ⁽⁵⁾.

International statistics show that each year the percentage of the population that requires medical attention for injuries caused by dog attacks increases ⁽⁶⁾.

Epidemiological surveillance consists of a systematic gathering of information about specific health problems in communities, it's processing and analysis, and its appropriate use by those making decisions regarding intervention for prevention and risk control or damage involved.

Materials and Methods

To describe and analyze animal attacks (especially bites) to people and the epidemiological surveillance system in Rosario, we present the progress of a descriptive transversal study of patients treated at the Carrasco hospital. Information was collected from patient register in rabies-prevention office and from interviews with the service Director. Furthermore, for each patient treated we analyzed the difference in sex, age, and the part of the body affected, and of the biting animals we have determined the species.

We have grouped these patients into three age categories according to the INDEC (National Institute of Statistics and Censuses) children from 0 to 12 years, teenager from 13 to 17 years and adults from 18 years and over.

In Santa Fe State there have been no human cases of rabies since 1983 and in our city, Rosario, the last case in man was in 1983 and in a dog was in 1981.

Results

According to hospital records, 1356 people bitten by animals were treated in 2012, of which 1267 (93.43%) were carried out by dogs, 55 (4.05%) by cats, 23 (1.69%) by rodents and 11 by bats and the rest by others species.

Among the affected population, 52.51% (712) were men and 47.49% were women. In addition, 65% of the injured population were adults, 30% were children, and 5% teenagers.

AGE GROUP	GENDER	
	Female	Male
Children	12,5%	17,5%
Teenagers	2%	3%
Adults	33%	32%

Table 1:
Distribution of people affected by age and gender.

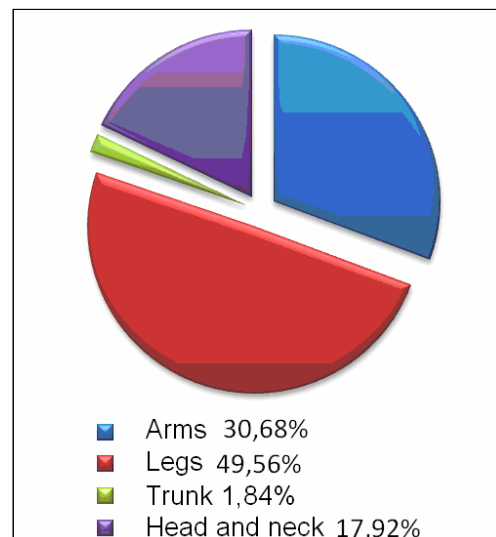


Figure 1:
Location of lesion in patients treated according to the affected body region.

Discussion

In Argentina, registries from the Durand Hospital and the Zoonotic Luis Pasteur Institute of Buenos Aires City reported that in Buenos Aires State annually 100,000 people are treated at official organizations for injuries caused by dogs and cats. Besides, a study conducted at Cordoba State ⁽⁷⁾ and in La Plata city ⁽⁸⁾ published similar results about this topic.

In Santa Fe State, an epidemiological study completed in 1997 in Rafaela City, established that most exposures related to animated mechanical forces referred to dog bites occurred in children in playful situations in residential patios or sidewalks ⁽⁹⁾. In a study published in 2004 by Dr. Orlando Alassia Children's Hospital of Santa Fe city, it is stated that, among other findings, the most serious injuries are produced in the face, in children less than 6 years old being caused by medium and large breed dogs, belonged mostly to themselves, a family member or neighbor ⁽¹⁰⁾. Similar indicators were found in Arequito from 2005 to 2009, where 67% of the victims were adults, 21% children, and 12% teenagers. Close to 84% of the injuries were located on the limbs, predominantly the lower (67%). The most common place (75%) where the attack occurred was the street, and 46% of the biters were made by known dogs. Moreover, 67% of the animals were male. The attacks were committed mainly by adult dogs (83%) and nearly 36% had a history of attacks on people ⁽¹¹⁾.

On a national level, it is worth mentioning the Decree 1088/2011 which creates the "National Program for the Responsible Ownership and Health Care of Dogs and Cats" and in Rosario a municipal rule 7445/2002 and its amendments 8200/2007 and 8468/2009, which include a Unified Pets Register (RUM) that defines potentially dangerous animals.

The lack of a unified record affects most of the research related to this topic, which is based on reports from various sources, and the fact that not all bites are reported must also be considered. For some authors the actual number of bites could be 100 times greater than the reported number, and one of the reasons that would explain why this number is underestimated is the epidemiological situation of rabies in places where it is controlled or eradicated ⁽¹²⁾.

Nowadays our health system only records bites where there is a risk of contracting rabies, leaving out the other important pathologies such as physical and psychological injuries caused by dog bites.

Rabies incidence in Latin American and Caribe has dramatically declined over the last few decades, with laboratory confirmed dog rabies cases decreasing from approximately 25000 in 1980 to less than 300 in 2010. Dog-transmitted human rabies cases also decreased from 350 to less than 10 during the same period. Several countries have been declared free of human cases of dog-transmitted rabies, and from the 35 countries in the Americas, there is now only notification of human rabies transmitted by dogs in seven countries (Bolivia, Peru, Honduras, Haiti, Dominican Republic, Guatemala and some states in north and northeast Brazil). Here, we emphasize the importance of the political commitment in the final progression towards disease elimination. The availability of strategies for rabies control, the experience of most countries in the

region and the historical ties of solidarity between countries with the support of the scientific community are evidence to affirm that the elimination of dog-transmitted rabies can be achieved in the short term ⁽¹³⁾.

Unfortunately, increased international travel and trade, can pose risks for rapid, long-distance movements of ill or infected persons or animals. Such travel and trade can result in human exposures to rabies virus during travel or transit and could contribute to the re-introduction of canine rabies variant or transmission of other viral variants among animal host populations ⁽¹⁴⁾.

The Antirabies Clinic of Carrasco Hospital gives attention to patients coming spontaneously and sent by doctor for bite treatment. About 13% of them are considered suspicious rabies cases and get antirabies vaccination, which highlights the importance of dog bites to public health, veterinary medicine and responsible ownership of these animals. According to a study conducted by the Municipal System of Epidemiology, Public Health Department of the Municipality of Rosario in 2010, rabies office attend approximately 30% of patients suffering bites, the rest of the annual consultations for these injuries are resolved in each effector without rabies prophylaxis ⁽¹⁵⁾.

The Municipal Institute for Animal Health (IMUSA) performs the control of biting animals and is responsible for vaccinations and disease prevention strategies in animals, with special emphasis on those that are zoonotic.

Besides the risk of contracting rabies as criteria for registration of cases, physical and psychological injuries that are caused by animal bites, should be considered in the management of public policies about responsible pet ownership.

In the same way that documents the international scientific community, most of the attacks are produced in a social context of closer links between people and dogs. The health system of the municipality of Rosario considered relevant tackling this problem due to the health and social implications it has on their community.

Furthermore, it encourages interdisciplinary work as an essential tool to have a situation analysis that forms the basis for the establishment of an active policy in this area.

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References:

- (1) Mondragón D.M.; et al. (1997). Proceedings of APM 18 (3):120.
- (2) Villalonga, J.F. and Mateo de Mason, M.E. (1996). Proceedings of Revista Hosp. Niños de Bs.As., 8(166/167):17-21.
- (3) Meder Vincileoni, S. (2006). Proceedings of II Jornada Latinoamericana de Etología Clínica, Lima, Perú.
- (4) Schvartzman, S. and Pacin, M. (2005). Arch. Argent. Pediatr., 103, 5: 389-395, 2005.
- (5) Secretaría de Salud del Gobierno de la Ciudad de Buenos Aires, Instituto de Zoonosis Luis Pasteur. URL: www.pasteur.secyt.gov.ar/pu_f_morded.html. Consulta: 18.10.2005.
- (6) Butcher, R. (2008). Proceedings of the 33rd World Small Animal Veterinary Congress. Dublin.
- (7) Secretaría de Salud del Gobierno de la Ciudad de Buenos Aires, op. cit.
- (8) Amasino, C.F.; et al. (1998). Proceedings of Analecta Veterinaria. La Plata, 18,1/2: 21-28.
- (9) Húngaro, J.F. et al. (1998) Estudio epidemiológico Octubre 1996 - Septiembre 1997. URL: <http://www.ptp.org.ar/downloads/rafaela.pdf>. Consulta: 18.10.2005.
- (10) Redondo, A.M. et al. (2004). Proceedings of Cuadernos de El Pase, Santa Fe, Nº1 - 12- 13.
- (11) Alfieri, A.; et al. (2010). Proceedings of E-universitas - UNR Journal, 03, Vol. 1.
- (12) American Veterinary Medical Association, (2001). Proceedings of J Am Vet Med Assoc.; 218:1732-49.
- (13) Vigilato M.A.N., et al, 2013. Phil Trans R Soc B 368: 20120143. <http://dx.doi.org/10.1098/rstb.2012.0143>
- (14) Lankau, E. W., et al (2013). Zoonoses and Public Health. 10.1111/zph.12071.
- (15) Chumpitaz A, et al (2011). Sistema Municipal de Epidemiología, Secretaría de Salud Pública, Municipalidad de Rosario.