

Suggestion for Ascertaining the Size Breed of the Biting Dog on Epidemiological Reports and Animal Bite Registration and Reporting System in Iran

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Dear Editor

Rabies is among the world's most important and most fatal zoonotic diseases.¹ The agent causing rabies is an RNA virus of the Lyssavirus genus, in the family Rhabdoviridae.² that affects the central nervous system in warm-blooded mammals, including humans. Due to a case fatality rate of 100% (once the clinical symptoms appear),³ the high cost of vaccines and antirabies serums used for postexposure prophylaxis,² and fatalities among cattle and the resulting economic damages,⁴ fighting rabies is considered a priority. In developing countries, lack of accurate data, inadequate health care systems, underreporting, and misdiagnosis mean that the burden of the disease and its progress are not important. The primary transmission route is being bitten by an infected animal (animal bites).¹⁻³ Because of improvements in the national health care system in the timely discovery of animal bite victims and their timely prophylaxis, Iran has had fewer human cases of rabies infection but the number of animal bites is increasing.⁵ Research shows that most cases of animal bites and human rabies are caused by dog bites.^{2,3,6} That is why the World Health Organization (WHO) has set as one of its goals the global elimination of dog-transmitted rabies in humans by 2030.⁷

Conducting regular epidemiological surveillance programs,¹ raising public awareness, providing effective and affordable vaccines for postexposure humans,¹ and the culling of stray dogs² one of the current programs of the country's health system is to prevent and control of rabies. Despite posing serious threats, dogs are considered "man's best friend" because of the companionship and comfort they provide.⁸ Because of their "small size and lovable nature", small and toy dogs are perhaps the best subjects of these affections. Toy dogs have come a long way since first establishing a close relationship with humans.⁹

Dogs are classified into various breeds based on their functions (AKC Dog Groups), visual traits (Dog Groups by Trait), and size (Dog Groups by Size). With regard to size, dogs are classified into the following four groups: extra-large, large, small, and toy dogs. Small dogs weigh between 4.5 – 11.3 kg while toy dogs weigh less than 4.5 kg.⁹ Investigating the epidemiological characteristics of dog bites based on the breed of the biting dog can be useful for the following reasons:

1. With their cognitive and behavioral functions being less developed, children have a poor grasp of their vulnerability to dogs.¹⁰ Thus, 40-60% of dog bites occur in children and more than half of rabies victims are children under 15.¹⁰ Moreover, children may show more of a preference for and less fear towards small and toy dogs.

2. Postexposure prophylaxis will be performed for all cases of animal bites due to uncertainty regarding the safety of the biting animal. In most cases of animal bites by small and toy dogs, the wound is less severe due to the dogs' small stature, which means the victim will not feel the need to visit a treatment center.

3. The epidemiological report on these types of dogs is possibly independent of occupation (e.g. farming and shepherding) and gender.

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Received: 09 April 2022

Revised: 27 May 2022

Accepted: 24 June 2022

4. Rabies can be controlled or eliminated by vaccinating the animal reservoir population. Japan was the first country to successfully eliminate rabies through mass vaccination of dogs in 1956.¹¹ Thus, designing and enforcing laws on the registration, certification, and regular vaccination of small and toy dogs because of their small and lovely body, because of the companionship and comfort, From the aspect of great interest in human beings and creating special intimacy with them may be more acceptable and more feasible.

The breed of the biting dog, and its size group, is not mentioned in most epidemiological studies or reports by rabies prevention centers. Moreover, even in cases where the dog's breed is mentioned, there is always a possibility of mistaken identification of the breed. Life in Iran's rural, agricultural, and livestock-farming regions is, in a way, so attuned to coexistence with dogs that a rural household without a guard dog or a sheep-herd without a shepherd dog is hardly imaginable. On the other hand, in larger urban centers, the sociological and occupational factors indicate that ownership of small and toy dogs is more popular. Hence, conducting an original investigation aiming to estimate the averages and ratios of epidemiological variables in dog bite scenarios based on the size group of the biting dog seems necessary. Such an investigation can be envisaged as a case study conducted in Iran's rural and urban centers. Another recommended measure is mentioning the size group of the biting dog on epidemiological reports and the creation of a system for recording and reporting animal biting cases.

Keywords: Epidemiological Characteristics, Dog-Bite, Dog Breed

Please cite this article as: Kalteh E, Charkazi A, Yatimparvar G, Ghelichi-Ghojogh M, Ghezel A. Suggestion for Ascertaining the Size Breed of the Biting Dog on Epidemiological Reports and Animal Bite Registration and Reporting System in Iran. *J Health Sci Surveillance Sys.* 2022;10(3):388-389.

Conflicts of interest: None declared.

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