

LETTER TO THE EDITOR

DOG DOMESTICATION AND ZONOTIC DISEASES AMONG URBAN COMMUNITIES IN ARAB COUNTRIES: A GROWING THREAT TO PUBLIC HEALTH

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Dear Editor,

The domestication of dogs by humans began more than 15,000 years ago, and since then, they have been closely tied to human activities, such as guarding, hunting, and herding¹. In addition to being a social companion and partner in work, dogs have entered homes and spent more time with humans. Hence, their relationship was strengthened over time in many cultures². Humans gained many benefits from dogs' domestication. However, scientific research indicates that dogs can transmit many pathogens (including bacteria, viruses, parasites, and fungi)^{3,4}. Othman and Abuseir counted more than 60 dangerous zoonotic diseases related to dogs, especially echinococcosis, rabies, and leishmaniasis⁵. Many peer-reviewed articles have reported on the involvement of dogs in disease transmission. For example, Kocon et al. indicate that dogs contributed to spreading ticks (Acari: *Ixodida*) in both recreational and urban areas in Southern Poland³.

Relationships between humans and animals, particularly dogs, vary according to human cultures, customs, and even religious beliefs. This relationship ranges from being predominantly negative in many developing countries to being overwhelmingly positive in developed countries⁶. Dogs occupy an important place in the family lifestyle in developed countries. Further, the family shares most activities with their animals (home, shopping, holidays, playing sessions, and others). According to Chomel, dogs are sometimes used as a substitute for children⁴. Over time, these communities gained the necessary experience and knowledge about dog breeding, as well as providing the necessary health care. However, many incidents of infection have been documented, primarily through certain behaviors such as sleeping, kissing, being licked, or sharing food or kitchen utensils. Simply put, the dogs' domestication is an integral part of the culture of these communities. In general, the situation is similar both in urban and rural areas.

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The matter is completely different in other human communities. For example, in some Arabian communities, dog domestication was only for herding, hunting, and guarding purposes, especially in rural areas. Generally, dogs live in a barn outside the home, and the contact between humans and dogs is very limited. This situation greatly reduces the possibility of infection with zoonotic diseases. However, in these communities, the situation is no longer the same. Globalization, travel, tourism, and contact with other communities transferred the culture of dog breeding and domestication to the Arabian communities, especially in the cities and urban areas. As a result, many families own a dog or more in their homes. In fact, the matter doesn't relate to the herding, guarding, and hunting activities as in the past, but in most cases, as a hobby. In general, youth and teens are interested categories for this activity. Because these communities are new in this activity, they lack the necessary knowledge to breed dogs as a partner in the living house. It was also noted that these animals don't get the required health care and are rarely taken to veterinary clinics. Furthermore, dogs are exchanged through sale or gifting between individuals, without any health controls. Sometimes, these animals are sold in popular markets.

Dogs are crossbreeding traditionally, and the puppies are often sold to make money. Unlike western communities, no clear laws regulating dog domestication are present in most developing countries.

From a public health viewpoint, the situation is complex and very worrying. Dog breeding and domestication is a recent phenomenon in some Arabian communities, especially in urban areas, and should not be ignored, because it is a confirmed source of zoonosis infection. The health authorities must intervene to control the situation and ensure citizens' health. Chomel indicates that the danger of zoonoses transmission is reduced when adequate animal care is applied, and appropriate preventive measures are respected in the human environment⁴. So, correcting the situation begins with obligating families to provide the necessary health care to their dogs, such as vaccines, and conducting periodic examinations by veterinarians. Furthermore, training courses in dog domestication are necessary for families who wish to

own a dog. Finally, it is necessary to conduct awareness campaigns about the seriousness of dog-borne diseases and ways to prevent them.

In conclusion, many studies have reported that raising awareness among dog owners about dogs-associated zoonotic infections in parallel with implementing preventive strategies can significantly reduce zoonotic diseases in dogs and their owners⁷. These measures will have a positive impact on public health.

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