

Review Article

Role of pet animals (dogs, cats) for emerging and re-emerging zoonoses disease: Review

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Abstract

A pet has been shared in the environment many times and also they are bringing major psychological well-being to society. However, dogs and cats were a carrier of microorganisms that are pathogens for human infection, like viral, bacterial, parasitic, and others. From those pathogens are the emerging or re-emerging viral zoonoses for a human being, such as rabies, cowpox, rotaviruses, and others. Bacterial infections include scratches, pasteurellosis, *Staphylococcus aureus*, *Leptospira*, and tuberculosis leading to severe cases for people because of the different factors which occur in pet animals. Similarly, parasitic infections including hydatidosis, and leishmaniasis, are also recalled as pet-related zoonotic diseases. Lack of Veterinary care, good personal hygiene and pet hygiene, and absence of health education are the factors such as a risk of zoonotic infection.

Introduction

There are 223 million and 220 million dogs and cats respectively worldwide. Pets are used as companions also there have many advantages for societies in households, contributing to their use physically, socially, and emotionally for children [1]. However, pets are bringing health hazards. Bites and allergies are the commonest health hazards [2].

The major responsibilities of pets are to keep their welfare. When they are sick they need medication. Preventing and curing disease not only keeps their healthy but to must keeps their welfare [3]. The major contributing factors to zoonoses are global travel, illegal animal trade, population growth, urbanization, climate change, antibiotics, pesticides, increased pet populations, and greater animal product usage [4]. From the zoonotic animals disease, the 1-4 rank zoonosis are Recent zoonotic has related to pets [5].

The review provided an overview of the emerging or re-emerging zoonoses of pets animals (dogs and cats), also their

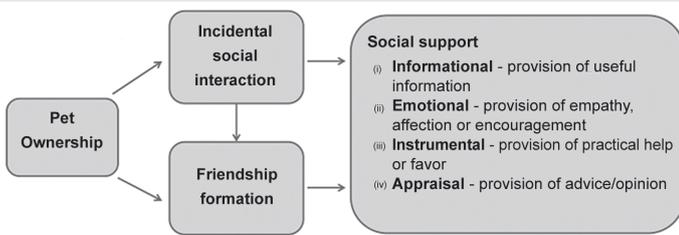
role including the importance of dogs and cat pet, their disease transmission, risk factors; pet owner population at risk, high-risk settings, the burden of illness and trends. Finally, it provided ways of prevention and control. The conclusion provides recommendations to improve these practices. Therefore the objective of the review was;

- ✓ To Review the role of pet animals for emerging or re-emerging zoonoses disease.

Background

Overview of pet animals

Dogs and cats are everyday lives of our families. They used companionship, especially for children and ladies. Also, they are used as keeping healthy, and fit, get nutritious food, love and affection, and proper housing and care. Rescue dogs have been trained to take on several tasks in searching for survivors after natural disasters such as earthquakes (Shrapnel, et al. 2006). Veterinary care for pets and animals is used as detecting the disease [3].



Source: [6].

Emerging and re-emerging zoonoses

The word emerging and re-emerging zoonotic was recently related to outbreaks that affected both animal and human health. The definition of emerging zoonoses is “a new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area, or a previously unrecognized pathogenic disease diagnosed for the first time and which has a significant impact on animal or public health. The re-emerging disease is recalled as the opposite of emerging [7].

Role of pets for emerging and re-emerging zoonoses

Pets have been the carrier of numerous emerging and re-emerging zoonosis, including bacteria, parasites, viruses, and fungus. Among zoonotic diseases which affect humans through pets, animals are parasitic, bacterial, virus, and fungal zoonoses are the major ones [8].

The emerging and re-emerging of parasitic zoonoses

The zoonotic parasite transmitted to humans is harbored in pets. Due to many factors such as age, immunity, social interaction of humans with pets are case significant problems. Particular interests are mentioned as the followings.

Hydatidosis: The life cycle of the parasite involves foxes and rodents. Pets are infected when they eat infected wild rodents. The infection of humans by the contamination of food and waters by the larval parasite [9].

Leishmaniasis: Especially *Cutaneous leishmaniasis* affects humans from pets due to contact. Also, it is transmitted vector-borne [10].

The emerging and re-emerging bacterial zoonoses

The population of pets and animals is increasingly emerging and reemerging bacterial zoonoses. The major bacterial zoonotic which are transmitted to humans from pets are *salmonellosis*, *colibacillosis*, *Campylobacte*, *Leptospirosis*, *Chlamyophilapsittaci*, *Bordetellabronchiseptica*, *Tuberculosis* [11].

Viral zoonoses

Viral zoonoses are major zoonotic in the world, especially in the rural area. Various viral pathogens, including rabies, *Cowpox*, *Avian Influenza*, and *Noroviruses*, *Rotaviruses* [12].

Major risk factor

Pet ownership: The pet owner is the major factor in the

transmission of the pathogenic disease especially in developing countries, especially in rural areas pet dogs and cats are associated with the owner. The absence of veterinary care is the major risk for spreading [13].

The population at risk: Populations at Risk are the first exposed to accruing zoonotic diseases such as elder and pregnant individuals [14].

Preventing and control emerging and re-emerging zoonotic diseases

Prevent appropriate handling of pet animals: Regularly protection of the pet’s animal’s safety and quality based on their behavior is the major method of the disease [13].

Hygiene and safety: Community hygiene like washing the hands during contact with the pets–animals with soap before and after eating was an important method [13].

Veterinary care for pets animals: Veterinarians care to contribute to Public Health special for pet animals so properly, and regularly vaccination for pet animals was the most important to reduce the burden of disease [15].

Health education: Education of the community is the most important to prevent zoonoses disease. Regularly to mention the community the importance of pet animals and their side effects regarding disease transmission as an important method to control the disease [16].

Conclusion and recommendation

The community to keep pets–animals to know about the challenges of pets on the zoonotic problem. The methods to control pet zoonotic are awareness of the pet’s owners especially immunocompromised individuals for social contact with the animals. Practice or collaboration in the connection between animals and human health will contribute significantly to zoonotic infectious disease management.

Based on the above conclusion the following recommendations are forwarded

- ✓ The community should be aware of improper handling and hygiene of pets–animals
- ✓ One health approach should have collaborated the professionals of human medicine and veterinary medicine
- ✓ There should be improved management and veterinary care for pet animals.

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