

What can you get from your Cat?

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ABSTRACT

Cats are considered a significant public health threat and are a major source of infection for several zoonotic diseases including bacterial, protozoal, internal parasites, external parasitic, fungal, and viral diseases. Most of these diseases cause death in humans, as well as cause other serious health problems like abortion, blindness, pruritic, skin rashes, and other symptoms. Therefore, this article aims to mention the main serious zoonotic diseases that are linked between cats and humans and cause health problems and how to reduce their risks in humans.

1. Introduction:

A zoonotic infection is one that spreads among cats and people spontaneously. There are many diseases that are zoonotic. Diseases are transmitted from cats to humans including bacterial, parasitic, viral, and fungal diseases [1]. Normal people are unlikely to get a zoonotic disease from a cat, but those with immune-compromised or immune-suppressed systems are more susceptible [2, 3]. Zoonotic infections can spread to humans through direct contact with diseased animals, tainted food or water, shared vectors, and a shared habitat [4].

2. Transmission of Zoonotic Diseases:

A zoonotic agent can infect people through a number of different routes [1, 5, 6]:

1. Most zoonotic diseases are transmitted by feco-oral transmission, such as Salmonellosis, Giardiasis, Cryptosporidiosis, Toxoplasmosis, and Toxocariasis.
2. Ringworm disease is spread through direct skin contact with infected cats when grooming, stroking, or sleeping with them.
3. Bartonellosis and rabies infect humans by the bites or scratches of cats.

3. Most Common Zoonotic Diseases:

3.1. Bacterial Diseases:

Three common zoonotic diseases are transmitted from cats to humans [7]: the first zoonotic bacterial disease is Salmonellosis; humans are infected by eating contaminated food with the feces of infected cats. Cats that consume raw meat or wild birds are more susceptible to Salmonellosis than others. Owners may minimize their own and their cats' chances of getting Salmonellosis by keeping cats indoors and providing them with prepared or commercially manufactured food. It's recommended to wash your hands completely after cleaning litter boxes or gardening. The second bacterial disease is bartonellosis (cat scratch disease), the causative agent is *Bartonella henselae* and humans are infected typically during scratches, but it can also spread through wounds from bites and when a cat licks an individual's open wounds. This bacterium can spread to humans and cats if it comes into contact with an open wound. It is most frequently transferred to cats via the bites of infected cat fleas, however, it can also be found in the excrement of these fleas [8]. The last disease is Pasteurellosis, which is caused by *Pasteurella multocida* [9]. Humans are infected after scratches or bites from infected cats infect the soft tissues and the respiratory system and cause vital invasive diseases mainly in immunocompromized patients and in the elderly such as endocarditis, meningitis, and bacteremia [8, 10].

3.2. Parasitic Diseases:

There are many protozoal, helminthic, and ectoparasitic zoonotic diseases that can infect humans [11, 12].

3.2.1. Protozoal Diseases:

The first protozoal zoonotic disease is toxoplasmosis cats can get toxoplasmosis by eating infected rodents and birds, and the infective stage (oocysts) passes with feces and contaminates nature. Humans can get the infection by ingestion of contaminated food and grasses with an infective stage (sporulated oocysts) or by drinking contaminated water with sporulated oocysts [13, 14]. The second protozoal disease is giardiasis, which infects humans and animals including cats and dogs, and the causative agent is *Giardia lamblia* [15]. An infected cat can spread the infection in their feces to other animals and humans by contamination of water, grasses and food by the infective stage (cyst) and cause severe watery fatty diarrhea in humans [13, 16]. The third protozoal disease is Cryptosporidiosis, also which causes diarrhea in humans and humans can be infected through direct or indirect contact with feces of the infected cats [17]. To prevent the transmission of zoonotic protozoal diseases in cats, a regular examination of feces of cats by

your veterinarian doctor and treat infects cats. There are some recommended preventive methods such as wearing gloves while handling feces-contaminated material and washing hands afterward, and in case of toxoplasmosis you can minimize infection by feeding your cat canned food, do not feed your cat raw meat because this can be a source of infection

3.2.2. Helminthics Diseases:

There are two common helminthics zoonotic disease in cat that can infect humans: The first one, is ancylostomiasis [16, 17], ancylostomiasis in humans lead to cutaneous larvae migrant syndrome and cause inflammation when walking barefoot in contaminated sand or soil. Therefore, wear shoes during walking in contaminated areas. Also, routine veterinary care of cats is needed. The second one, is toxocariasis, children and people who have cats are more susceptible to toxocariasis [17, 18]. Humans accidentally infect while swallowing dirt containing eggs of *Toxocara canis*. To protect yourself and your pet, take advice from your veterinarian doctor and the recommendations about this case. Teach your children to wash her or his hands well after playing with cats and do not allow your child to play with soil contaminated with west of pets [19].

3.2.3. Ectoparasitic Diseases:

The most prevalent zoonotic ectoparasitic disease of cats is the flea (*Ctenocephalides felis*) which infects both cats and humans and can cause allergy, itching, inflammation, and anemia from fleabites. Additionally, fleas could act as vectors for many pathogens such as *Bartonella henselae* [20]. Another zoonotic ectoparasitic disease is mange or scabies, which is caused by *Sarcoptes scabiei* mite [21]. If your cat gets fleas or mange, make sure to follow your veterinarian doctor's recommendations for treatment.

3.3. Fungal Disease:

The most zoonotic fungal disease that can transmitted from cat to humans is Ringworm named dermatophytosis [22], which is a skin disease that can infect humans, mainly children when touched by an infected cat [23], which develops skin lesion such as itching, scalp and rash. Wash your hands well after touching your pet or wear protective gloves during handling. Finally, keep your infected cat indoors till completely recovered from the infection, then clean and disinfect the household with potent disinfectant [24, 25].

3.4. Viral Disease:

The most fatal viral zoonotic disease is Rabies, which is spread through the bite of an infected cat to humans [26, 27]. You can decrease the spread of rabies, do not contact wildlife and stray pets, and see your doctor as soon as possible if you have been bitten by pets.

Conclusion: this article highlights the most zoonotic diseases between cats and humans including Salmonellosis, *Bartonella henselae*, Pasteurellosis, toxoplasmosis, giardiasis, cryptosporidiosis, ancylostomiasis, toxocariasis, fleas, scabies, ringworm, and rabies. To minimize the risk of all mentioned diseases the role of veterinarian doctors is to educate the people, medical staff, and public health about the potential zoonotic infection between cats and humans how they are transmitted, and how to protect you from it.

Recommendations:

There are several general recommendations the owner of a cat should follow:

- Regular examination of cats by a veterinarian doctor
- Using deworming under the supervision of a veterinarian doctor
- Sick cats should be seen by a veterinarian doctor to determine the risk of the transmission of zoonotic disease and to treat it.
- Wash your hands after handling the cat
- Teach your children to avoid direct contact with cat
- Do not allow your child to play with soil contaminated with the waste of cats
- Wear gloves when handling cat waste products (feces and urine).

- Don't drink or eat in regions where cats are kept.

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