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## Feline disease with trend of human zoonosis in Thailand

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## ABSTRACT

Feline disease is usually an important concern in veterinarian medical practice. There are many feline diseases and some have trends to transmit to human. As cat is an important human pet, it is no doubt that zoonosis is important consideration in veterinarian medicine. Here, the author briefly reviews and discusses on the important feline diseases that pose chance for human zoonosis in Thailand, a tropical Southeast Asian country.

## 1. Introduction

Cat is an important pet for human beings. As a pet, cat has been fed in family for many thousand years. In ancient Egypt, cat is already fed as pet. As a closed friend to human beings, the problem of pet's illness can be the problem of the owner as well. In veterinarian medical practice, feline disease is usually an important concern. There are many feline diseases and some have trends to transmit to human. As cat is an important human pet, it is no doubt that zoonosis is important consideration in veterinarian medicine. Here, the author briefly reviews and discusses on the important feline diseases that pose chance for human zoonosis in Thailand, a tropical Southeast Asian country.

## 2. Hookworm infestation

Hookworm is an important tropical nematode infection. In Thailand, hookworm is highly prevalent. In Thailand,

the zoonotic potential of hookworms from dogs and cats has been proposed for a long time, firstly by Areekul in 1979[1]. An interesting survey was performed in a rural province of Thailand by Setasuban *et al*[2]. Setasuban *et al.* found that 75% of cats were infected with *Ancylostoma ceylanicum* alone, the rest had mixed infections of *Ancylostoma ceylanicum* and *Ancylostoma caninum*[2]. Hence, it is no doubt that feline hookworm is prevalent in Thailand and this can be easily transmitted to human beings. Of interest, there is still no verification that the present persisted high prevalence of hookworm infestation among Thai people is related to the feline hookworm or not.

## 3. Toxoplasmosis

Toxoplasmosis is an important parasitic infestation. This infection is confirmed for the zoonotic communication from cat to human beings. An interesting seroprevalence study by Jittapalapong *et al.* showed that *Toxoplasma gondii* was widespread in the stray animals in the Bangkok metropolitan area; therefore, it is essential to control the number of stray cats and dogs in order to reduce the transmission of toxoplasmosis to animals and humans[3]. Sukthana *et al.* studied cats and their owners in Thailand

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and found that seropositive toxoplasma antibody was associated with living in close proximity to seropositivity cats[4]. Jittapalapong *et al.* proposed that it was essential to control the number of stray cats in order to reduce the transmission of toxoplasmosis to animals and humans[5].

#### 4. Opisthorchiasis

Opisthorchiasis or liver fluke infestation is a very important trematode infestation in Thailand. This infestation is strongly related to the very high prevalence of a deadly cancer, cholangiocarcinoma, in Thailand. The infestation is due to the intake of metacercariae harbored fresh water fish. Hinz *et al.* proposed the possibility of cat to be the important source of infection in Thailand[6]. Aunpromma *et al.* studied cats in endemic area of opisthorchiasis in Thailand and reported a very high prevalence of feline opisthorchiasis[7]. Aunpromma *et al.* concluded that effective opisthorchiasis control programs had to include special focus on cat as an reservoir host[7].

#### 5. Feline filariasis

Feline filariasis is an important parasitic disease. This blood infection can also be seen in human beings. The special consideration in Thailand is on *Brugia malayi* infestation. Chansiri *et al.* studied cats in Thailand by PCR assessment for microfilariasis and concluded that domestic cat played an important role as the animal reservoir for *Brugia malayi* in the endemic areas of Thailand[8]. Although the risk of human zoonosis is not conclusive, it is evident that the mosquito vector is susceptible to parasite from infected cats and the parasite can further develop into the infective stage[9].

#### 6. Blastocystosis

*Blastocystis* spp. can be generally detected in animals and there is evidence of zoonotic potential[10]. From the study by Parkar *et al.* in stool samples from Thai people[10], *Blastocystis* subtype 5, which is a possible zoonotic subtype[11], can be isolated. The present concept for management of blastocystosis includes the complete treatment of cases, family members and pets including cats[12].

#### 7. Feline flu

Cat can also get the influenza. The transmission of feline to human beings is a serious concern[13]. There are some studies on influenza infections in cat in Thailand. Some reports highlight the human zoonosis risk. Amonsin *et al.* reported that H5N1 viruses that infected a domestic cat and dog were highly pathogenic avian influenza viruses, which were virulent in mammalian species, potentially indicating transmission of H5N1 viruses from domestic animals to humans[14]. In addition, Songserm *et al.* mentioned that cats were common house pets, concern regarding disease

transmission to humans exists[15].

#### Conflict of interest statement

We declare that we have no conflict of interest.

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