

Cryptosporidiosis in pet birds-zoonotic alert to kids

Abstract

Birds are considered as integral part of every ecosystem and commonly found in households and zoos. Among the different diseases in pet birds, parasitic infections are transmitted by abnormal sanitation. Cryptosporidiosis is one of the important protozoan diseases in birds transmitted by contamination of water and feed by the infected bird droppings. Cryptosporidiosis causes the development of either a respiratory or a digestive illness in birds. Due to environmental contamination with the infected bird droppings, humans can also get the cryptosporidiosis. Present communication reports on the importance of cryptosporidiosis in relation to the public health coupled with recommended household hygiene practices to prevent transmission.

Keywords: pet bird, kids, zoonosis, cryptosporidium spp, sanitation

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Introduction

Birds which are housed and bred for ornamental use are usually called pet birds. Examples of pets are canaries, finches, sparrows, parrots, parakeets, budgerigars and lovebirds (Figure 1). Gastrointestinal parasitic diseases play an important role in the morbidity, mortality of pet birds and considered as a source of pathogens to the public.¹ Among the different protozoan diseases, cryptosporidiosis is considered as one of the important and major diseases in birds. Cryptosporidiosis affects a large number of avian populations; it causes respiratory and digestive illness.² Present communication about the zoonotic importance of the cryptosporidiosis and how to prevent it. Worldwide, thirty avian species was identified suffering from clinical cryptosporidiosis.³ The first time it was identified by the Tyzzer (1929) in the gallinaceous birds.⁴ Cryptosporidiosis, caused by the *Cryptosporidium* spp. which makes the birds more prone to diarrhoea, dullness and mortality. It is resident of the intestinal tract and transmitted by the consumption of the contaminated feed and water. Birds may act as asymptomatic carrier for the disease and spread the infection to others. Previously, different reports of cryptosporidiosis in humans and cattle were reported but, literature was very scarce in relation to the pet birds.^{5,6}



Figure 1 Kid playing with a Budgerigar bird (Common parakeet) in a house.

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In pet birds, the infection is caused by *Cryptosporidium galli*, *Cryptosporidium meleagridis* and *Cryptosporidium baylei* organisms. These species have been described as zoonotic importance parasites. But, the intensity of these organisms was lower when compared with

the cryptosporidiosis caused in bovines. In humans, cryptosporidiosis is mainly caused by *Cryptosporidium hominis* and *Cryptosporidium parvum*, though less frequently it caused by *Cryptosporidium meleagridis* and *Cryptosporidium baylei*.⁷ Because of the playing habit of the kids, improper hygiene, both kids and adults with poor immune system stands to create an avenue for development of the disease. Development of the signs during the cryptosporidiosis depends upon the organs involved during the pathogenesis. Initially, it starts from the gastro-intestinal tract followed by pancreas, liver and respiratory tract.¹ Among the different species of the *Cryptosporidium*, *C. meleagridis* had a wider host range which can easily infect humans.⁸ Asymptomatic animals act as the mechanical transporter for transmission of the parasitic oocysts to the other animals and humans.⁹ Recommended household hygiene practices to prevent transmission of the cryptosporidiosis.⁷

- i. Regular cleaning and disinfection of the bird's premises.
- ii. Offering the clean water and food without contamination of the droppings.
- iii. Cleaning of the cages, feeding cups and the water tuffs regularly.
- iv. Washing of the hands with disinfectants liquid before and after handling or playing with the birds
- v. Keeping the separate cloths while playing with the birds and washing of the clothes separately.
- vi. Discarding of the remaining vegetables, fruits
- vii. Provision of the separate space for bathing of birds and drying.

Conclusion

Education of the owners of birds regarding the hygienic procedures is essential to control the transfer of zoonotic cryptosporidiosis from the pet birds to kids. Continuous monitoring of both pet birds and kids should be encouraged to reduce frequent outbreak.

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Conflict of interest

The author declares no conflict of interest.

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