

Dog owners more likely to share germs with pets by not washing hands than by sleeping with dog

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Dog owners who sleep with their pet or permit licks on the face are in good company. Surveys show that more than half of owners bond with their pets in these ways.

Research done by a veterinarian at Kansas State University found that these dog owners are no more likely to share the same strains of *E. coli* bacteria with their pets than are other dog owners.

Dr. Kate Stenske, a clinical assistant professor at K-State's College of Veterinary Medicine, studied this association as part of her doctoral research at the University of Tennessee. The research is scheduled to appear in an upcoming issue of the *American Journal of Veterinary Research*.

Stenske said the finding that these human-animal bonding behaviors aren't more likely to spread germs is good news because there are physical and psychological benefits of pet ownership.

"I became interested in the topic because there is such a strong bond between dogs and their owners," Stenske said. "If you look at one study, 84 percent of people say their dog is like a child to them."

Stenske said surveys also show that nearly half of all dog owners share food with their dogs, and more than half allow the dog to sleep in the

bed and lick them on the face.

"We also know diseases can be shared between dogs and people," Stenske said. "About 75 percent of emerging diseases are zoonotic, meaning they are transferrable between humans and other animals. With these two pieces of knowledge, I wanted to examine the public health aspects of such activities."

Stenske's study centered on *E. coli* bacteria, which is common in the gastrointestinal tracts of both dogs and humans.

"People have it, dogs have it, and it normally doesn't cause any problems," she said. "But it can acquire genes to make it antibiotic resistant."

The study examined fecal samples from dogs and their owners and looked at the bacteria's DNA fingerprints. Stenske found that 10 percent of dog-human pairs shared the same *E. coli* strains. She also found that the *E. coli* had more resistance to common antibiotics than expected, although the owners had more multiple-drug resistant strains than their pets.

"This make us think that dogs are not likely to spread multiple drug-resistant *E. coli* to their owners, but perhaps owners may spread them to their dogs," Stenske said. "What we learn from this is that antibiotics really do affect the bacteria within our gastrointestinal tract, and we should only take them when we really need to -- and always finish the entire prescription as directed."

The research showed that bonding behaviors like sharing the bed or allowing licks on the face had no association to an increase in shared *E. coli*. However, Stenske said the research did show an association between antibiotic-resistant *E. coli* and owners who didn't wash their

hands after petting their dogs or before cooking meals.

"We should use common sense and practice good general hygiene," she said.

Stenske said future research might focus on the relationship between shared *E. coli* and the behaviors of cat owners. Not only is cat ownership higher than dog ownership in the United States, but cats also interact with people in different ways than dogs, she said.

"We have a lot to learn," Stenske said. "In the meantime, we should continue to own and love our pets because they provide a source of companionship. We also need to make sure we are washing our hands often."

Source: Kansas State University

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