Our observations suggest that feline saliva has antibacterial properties that may play a significant role in maintaining the health of their skin, fighting infection, and preventing odors. Unlike dogs, cats never require bathing assistance in order to maintain their cleanliness.

We reasoned that bacterial growth may be inhibited by the process of feline grooming. We examined whether feline saliva had capabilities to suppress growth of several bacterial species.

Antibacterial and antifungal reactions have been credited with lysozymes in human and animal saliva (Hart and Powell 1990, Aps and Martens 2005). While research has been conducted on antibacterial properties in canine saliva related to licking of wounds (Hart and Powell 1990), no studies related to antibacterial properties in cat's saliva were found.

We then hypothesized that, in a manner to lachrymal and salivary secretions in humans and other animals, feline saliva contains antimicrobial components; and in this way, feline grooming contributes to their overall well-being via the uniform spread of these molecules.

**Objective**

- Cats can come into contact with various species of opportunistic pathogens:
  - *Escherichia coli*, found in fecal matter;
  - *Staphylococcus aureus*, which often lives in sinus passages as staphyco bacteria or skin wounds; and
  - *Serratia marcescens*, the pink bacteria found in showers and bathrooms in households. *S. aureus* was used in lieu of *Staphylococcus felis*, which is a bacterial species in felines.

- A modified Kirby-Bauer protocol was utilized to measure the zone of inhibition produced by feline saliva against three bacterial species: *E. coli*, *S. aureus*, and *S. marcescens* when compared to three antibiotics commonly used to fight bacterial infections: penicillin, kanamycin, and tetracycline.

**Results**

**Figure 1.** Comparison of mean zone of inhibition (cm) produced by four treatment groups (*n=10*): kanamycin (*K*), tetracycline (*TE*), penicillin (*p*), and cat saliva (*Cat*).

**Figure 2.** Comparison of mean zone of inhibition (cm) produced by four treatment groups (*n=8*): kanamycin (*K*), tetracycline (*TE*), penicillin (*p*), and cat saliva (*Cat*).

**Figure 3.** Comparison of mean zone of inhibition (cm) produced by four treatment groups (*n=11*): kanamycin (*K*), tetracycline (*TE*), penicillin (*p*), and cat saliva (*Cat*).

**Future Studies**

- The significance of this research is that properties in cat saliva could potentially provide an alternative antibacterial agent, since bacteria are constantly developing resistance.

- The biochemical composition of feline saliva could be identified in order to pinpoint the antibacterial component or possible chemical buffer that inhibits bacterial growth.

- An assessment could be made of whether there are other bacterial strains that can be inhibited by feline saliva.

**Works Cited**


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