



Do We Make Bacteria More Aggressive?

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Human ancestors have always tried to find and select more useful plants and animals for more benefit. For this purpose, individuals select and breed for useful and friendlier animals, which is called domestications. In this regard, human has made many domestic animals and even plants (1-3). Nowadays, humans have changed the strategies to design better animals and plants by gene manipulations (4,5).

It seems that humans do reverse in one important way. The use of antibiotics has led to the selection of more resistant bacteria and long usage of antimicrobial agents has caused a global increase in bacterial resistance. These features are transmitted from one to another, and they gradually create a community that is completely resistant to the antibacterial agents. Now, treatment cannot be helpful against several kinds of bacteria in many cases. During the past decades, human focus on killing all bacteria via antibiotics, disinfectants, and soaps has caused the appearance of more resistance and more precisely, wilder bacteria in our bodies and our surrounding world (6,7).

Due to the upward trend, the progression of bacteria in resistance to an antibacterial agent by mutations, hiding from the immune response by antigenic mimicry, leads to a loss in the target components, and finally, increases toxicity and their ability to transfer resistance genes from one generation to the other. On the other hand, the emergence of the weak hosts has provided more appropriate conditions for bacterial infection due to the co-infection, multi microbial diseases, inappropriate lifestyle, and underlying diseases. Thus, no effective antibiotics are available against this strong army during the next decade (8-10).

Therefore, what measures can we take or what strategies should we adopt to prevent this?

The use of bacteria against bacteria is probably helpful because bacteria like animals and humans enjoy a fight with each other for survival. In other words, by selecting and proliferating the premier strains that are not a pathogen, they reach the best territory for living in a human body as a commensal and strong army that prevents the entrance and colonization of pathogenic strains.

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