Microbial communities on skin affect humans' attractiveness to mosquitoes

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The microbes on your skin determine how attractive you are to mosquitoes, which may have important implications for malaria transmission and prevention, according to a study published Dec. 28 in the online journal *PLoS ONE*.

Without bacteria, human sweat is odorless to the human nose, so the microbial communities on the skin play a key role in producing each individual's specific body odor.

The researchers, led by Niels Verhulst of Wageningen University in the Netherlands, conducted their experiments with the Anopheles gambiae sensu stricto mosquito, which plays an important role in malaria transmission.

They found that individuals with a higher abundance but lower diversity of bacteria on their skin were more attractive to this particular mosquito.

They speculate individuals with more diverse skin microbiota may host a selective group of bacteria that emits compounds to interfere with the normal attraction of mosquitoes to their human hosts, making these individuals less attractive, and therefore lower risk to contracting malaria.

This finding may lead to the development of personalized methods for malaria prevention.

More information: Verhulst NO, Qiu YT, Beijleveld H, Maliepaard C, Knights D, et al. (2011) Composition of Human Skin Microbiota Affects Attractiveness to Malaria Mosquitoes. *PLoS ONE* 6(12): e28991. doi:10.1371/journal.pone.0028991