

# Killing bacteria for a sterile environment

Shima Gyoh on the threat to *homo-fungo-bacteri-virus!*



In a bid to increase their sales, some manufacturers of detergents and antiseptics are conducting a vicious campaign misinforming the public that it is good to create a sterile environment on our bodies and in our homes because there are germs everywhere and they are all harmful. We are being persuaded to use antiseptic soaps and solutions in our bath water and on all surfaces and clothes that we clean. The companies inveigle the medical and nursing fellows to lend the credibility of their professions by upholding the lies contained in these advertisements. Members of these groups should realise that they are violating the ethics of their profession by contributing to shamefully misleading the public on the very issues they have the duty to educate us on.

Living organisms are indeed everywhere. Human beings think they are basically a sterile being, and regard the billions and trillions of other organisms that live on our bodies as unwelcome guests and parasites. This is far from the truth. If you could safely really sterilise a human being, inside and outside, s/he would not survive for more than a few days. The numerous organisms living with us actually evolved with us over the eons, and we depend on them as much as they depend on us. This permanent commensal situation makes each one of us really a compound living organism, a sort of *homo-fungo-bacteri-virus!* Of course it does not sound pretty, but it is scientifically more accurate. Computer estimation shows that the number of bacteria in the colon alone is three times the number of cells in the entire human body, and we are not counting fungi or viruses. Friendly non-pathogenic bacteria live on all our internal and external surfaces that border the environment. Their successful competition with the pathogenic variety stops the latter from invading and causing disease. Elimination of the normal flora through unnecessary overuse of antiseptics and antibiotics permits pathogens to invade and

cause disease. Two well-documented examples are the intractable diarrhoea caused by infection with antibiotic-resistant *Clostridium difficile* or methicillin-resistant *Staphylococcus aureus*. Recently, such infections have been cleared by transplantation of faeces from the colons of 'normal' people who have not abused antibiotics to that of the patient whose condition was caused by excessive use of broad-spectrum antibiotics.

Most people know that bacteria in the intestine produce vitamins necessary for human health, but many more interesting aspects of the roles our bacteria play in our bodies are being discovered. For example, the incidence of asthma and auto-immune (auto-allergic) diseases in the developed world is higher than in the developing countries. The reason may be that growing children in developing countries are exposed to a greater variety of microorganisms and this develops their immunity. They are therefore better able to handle antigens in both the internal and external environment. There are many other interesting functions of our resident body flora and recently some quite surprising and remarkable new claims are being made of the protective functions of these organisms, but they are still regarded as speculative until proven by scientific study. The evidence points to the useful interaction our bodies have with the bacteria in and around us, and that their blind elimination may not be the smart thing to do.

I am not saying that we should abandon the fear of bacteria and adopt dirty living. The consequences of poor hygiene culture are serious, and diseases such as cholera, typhoid fever, guinea worm disease, and many other diseases continue to wreak havoc on African countries, and we must not relax our efforts to eradicate them. However, the wide use of antiseptics being promoted in our environment is a gimmick to increase profits and is not aimed at improving the health of the people. It represents overstepping the boundary of sanity and will in fact compromise the health of the people. Respectable healthworkers should not be involved in this disservice to their profession.

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