

Scientists Develop Effective Coating Solution for Smelly Feet



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Developed by the Royal Thai Airforce, the ZnO-NP-coated socks were trialled in a real-life setting by researchers at the Siriraj Hospital, Mahidol University, in Thailand.

Researchers have shown that socks coated in zinc oxide nanoparticles (ZnO-NPs) can prevent foot odour and bacterial infection causing smelly feet, reducing the negative impact this embarrassing condition has on quality of life.

Developed by the Royal Thai Airforce, the ZnO-NP-coated socks were trialled in a real-life setting by researchers at the Siriraj Hospital, [Mahidol University](#), in [Thailand](#).

They found that the antibacterial efficacy of ZnO-NPs, along with its safety and compatibility with human skin, makes it the perfect compound to incorporate into textiles, including socks, to prevent unpleasant foot odour.

“Our results prove the efficacy of ZnO-NP-coated socks in preventing bromodosis and inhibiting the development of pitted keratolysis (bacterial infection causing smelly feet),” said study lead author Punyawee Ongsri from Royal Thai Airforce.

“These socks could provide a new primary prevention option for both military personnel and those susceptible to these embarrassing and unpleasant conditions,” Ongsri added.

For the results, the double-blinded, randomised, controlled trial was conducted with 148 cadets at the Thai Naval Rating School.

The study demonstrated that those with the ZnO-NP-coated socks had significantly less foot malodour compared to baseline. This was compared to the uncoated-sock group who experienced more intense foot odour with a greater negative effect on their daily life.

They also found that participants with the uncoated-socks were more likely to develop pitted keratolysis compared to those with the ZnO-NP-coated-socks.

“While completing an internship as a naval officer in the medical department, I saw a high number of foot infections in military personnel,” Ongsri said.

“I wanted to find a way to prevent and treat these fungal and bacterial infections and those conditions associated,” he added.

Previous studies had demonstrated zinc oxide nanoparticles’ antibacterial properties therefore the research team wanted to test the efficacy of this new technology in a real-life setting.”

“We are continuing our research with other textiles and hope to treat and prevent the growth of bacterial and fungal infections,” the study authors wrote.

The study was presented at the virtual conference - ‘29th European Academy of Dermatology and Venereology (EADV) Congress’.

Read the [original article](#) on Telangana Today.