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**Antimicrobial activity of TiO<sub>2</sub> nanoparticles against pathogenic strains that cause wound infections****Raniyah Ahmad Maki Shoudri**

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The first civilization dealt with disorders and provided detailed information about wound management was ancient Egyptians. Wound infections evidently appeared in times of World War I that accounted a significant mortality and morbidity rate among injured soldiers. Currently, around 11 million people worldwide require medical treatment for wound infections and 300,000 people die every year. Scientists highlighted the concept of introducing micro-organisms into wounds resulting in an infection. The infected wound was successfully treated with wide-spectrum antibiotics that can eradicate the pathogenic micro-organisms. Due to extensive use of antimicrobial drugs such as  $\beta$ -lactam, methicillin, vancomycin, etc., new strains with high resistance have been emerged. During the past few decades, nanotechnology has arisen with new promising technology for synthesis of nanobiomaterials. Researchers focused on using nanobiotechnology to employ several nanoparticles as antimicrobial agent. Metallic nanoparticles such as zinc, copper, titanium and silver have demonstrated antibacterial activity. Metallic nanoparticles will be considered as a new alternative treatment, which replaces the existing antibiotics. Antibacterial activity of these nanoparticles, especially TiO<sub>2</sub> will enhance the future of the therapeutic strategies against the resistant pathogenic strains that cause wound infections.

**Biography**

Raniyah Ahmad Maki Shoudri has completed her MSc from King Abdulaziz University in Applied Medical Technology, Clinical Microbiology and Immunology. She is a Laboratory Specialist in Reference and Diagnostic Laboratory, Jeddah, the Ministry of Health.

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