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THE ENHANCED ANTIBACTERIAL POTENCY OF THE ACTIVE COMPOUNDS FOUND IN
TURMERIC AND NEEM IN THE PRESENCE OF SUNLIGHT**Abstract**

Objective: The induced inactivation of *S.aureus*, *S.typhi* and *K.pneumoniae* by turmeric and neem extracts, curcumin and nimbidin respectively, in the presence of sunlight. **Design and methods:** Turmeric possesses a number of health benefits which include; its antibacterial benefit (working on both gram positive and gram negative bacteria) , it is a good source of antioxidants ,it acts as a potent anti-inflammatory agent, antifungal activity, antiproliferative and importantly it also contains anticancer properties(3,4). Neem also possesses both gram positive and gram negative antibacterial properties. Apart from its antibacterial property neem also contains antifungal, antimalarial, antiulcerogenic, antifertility properties, it can treat some forms of sexually transmitted diseases such as gonorrhoea, syphilis, chlamydia, genital herpes, genital/vaginal warts, candidacies, and urinary tract infections (1). Sunlight serves as a mutagen, in which the non-ionized radiation (electromagnetic radiation) from the sun's UV light causes alterations in bacterial DNA structure (2). This alteration of the DNA may lead to inability to repair, lack of replication and hindrance in the development of resistance mechanisms (2). The mutagenic effect of the sun's UV radiation combined with the antibacterial effect of both turmeric and neem may pose as an effective antibacterial treatment. Samples of bacteria to be used were cultured over a 48 hour period in nutrient agar. Afterwards, the cultured bacteria were inoculated into the blood samples that were stored in anticoagulant test tubes and left for a further 24 hours. The infected blood samples untreated and treated with turmeric and neem were then placed in conditions of darkness and sunlight for a 2 hour period. The process of non-ionized radiation (solar irradiation) was done during the midday period (from 12-2 pm) to make adequate use of the sun's energy. Following that 2 hour period the samples were then tested and results were analysed.