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## Medicinal Plants and Natural Products Research

OCTOBER 02-03, 2017 KUALA LUMPUR, MALAYSIA

## Preparation and antibacterial activity of Triphala cream against multidrug-resistant wound pathogens

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riphala is a drug used in the traditional system of medicine and comprises equal parts of dried pericarp of *Terminalia* L chebula, Terminalia bellirica and Phyllanthus emblica fruits. The aqueous extract of Triphala is being used for cleaning and treating wounds in indigenous medical institutions in Sri Lanka. However, a ready-made formulation of Triphala for treating wounds is lacking. Further, the studies on antimicrobial activity of Triphala and its constituent plants against multidrugresistant pathogens are scanty. The purpose of the study was to prepare a ready-made formulation of Triphala and evaluate its antibacterial activity against a panel of multidrug-resistant wound pathogens. Triphala cream 40% w/w was prepared by adding a solid extract of Triphala to an aqueous cream base BP and homogenizing the mixture. The antibacterial activity of Triphala cream and the antibiotics-Fucidin 2%, Bactroban 2% and Soframycin 2% was examined using agar dilution method against 24 multidrug-resistant organisms known to cause wound infections. The pathogens included methicillin-resistant Staphylococcus aureus, Streptococcus pyogenes, Viridans streptococci, vancomycin-resistant Enterococcus faecium, extendedspectrum  $\beta$ -lactamase producing Escherichia coli, Acinetobacter spp., Pseudomonas aeruginosa and Klebsiella pneumoniae. All tests were performed in triplicate. Triphala cream demonstrated significant activity against all Gram-positive cocci and Gram-negative bacilli at Minimum Inhibitory Concentration (MIC) values <0.4 mg/ml and <0.4-1.6 mg/ml, respectively. The spectrum of activity of Fucidin and Bactroban included Gram-positive cocci only while that of Soframycin included Gram-negative bacilli only. Triphala cream demonstrated activity similar to that of commercial antibiotics against both Grampositive cocci and Gram-negative bacilli. Thus, Triphala cream alone provided effective coverage of both Gram-positive and negative organisms in contrast to the use of commercial antibiotics where two separate commercial creams were required for the purpose.

## Biography

A Manoraj has completed his MPhil and MSc in Plant Sciences at University of Peradeniya, Sri Lanka and conducting research on antibacterial activity of Triphala and natural products. Presently, he has been serving as a Community Medical Officer at the Department of Ayurveda, Sri Lanka. He has 10 years of research experience and published and presented 15 papers nationally and internationally. He is also a Reviewer of research papers for national and international research conferences and journals. He has introduced a novel nutritional food supplement called *Navaposa*, especially for pregnant and lactating mothers and children.

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