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Evaluation of antimicrobial potential of *Murraya koenigii* extracts

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Pollution and change in food habits resulted in rise of deficiency, metabolic syndromes and other health concerns. Synthetic drugs may be rapid in suppressing the ailments but they also impose side effects and rise in multi drug resistant pathogens. To counter these side effects the modern world has again realized the importance of herbal drugs. Apart from India, 1/3 American adults, 74% population of United Kingdom, 60% Netherlands population and Belgium have shifted towards herbal medicinal therapies completely. Herbal drugs specifically strengthen the living system without having any side effects. Around the world, Indian subcontinent specially Indo-himalayan region is hotspot zone is blessed with rich and diverse heritage of cultural traditions and pharmacologically important plants. *Murraya koenigii* 'curry leaf tree', plants of Rutaceae family is commonly used as flavoring agent in traditional food. Different parts of *Murraya koenigii* can be used as medicines to cure various ailments such as night blindness, dysentery, diarrhea, vomiting, and bites of poisonous animals, bruises and eruption by different tribal communities. The current investigation was to determine the antimicrobial potential of the *Murraya koenigii* leaf extract against clinical pathogens *Bacillus cereus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Salmonella typhi*, *Shigella*, and *Staphylococcus aureus*. The bacteria were more sensitive to aqueous (*S. typhi*, 16 mm at 40 µl), acetone (*B. cereus* and *P. aeruginosa*, 13 mm at 40 µl) and methanol (*B. cereus*, 12.2 mm at 40 µl) extracts of *Murraya koenigii*. However petroleum ether and chloroform extract was less effective. Phytochemical analysis of extract was signified by the presence of koenimbine, koenine, mahanimbine, murrayazolidine, murrayazoline, murrayacine, girinimbine, mukoeic acid etc. These bioactive compounds are responsible for its antioxidant, antimicrobial, anthelmintic, analgesic, anti-inflammatory, antidiarrheal, hepatoprotective and antitumor properties. Results from current investigation suggested that *M koenigii* can be used in preparation of safer alternatives to antibiotics and synthetic medicines which directly effective in suppressing the generation of drug resistant microbes and damage environment.

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