

Inhibitory effect of some traditional hair washing substances on hair borne bacteria

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Abstract

Traditionally people use several plant materials and their extracts as hair washing substances. Plant based natural substances are not harmful as well as they are found to be more effective compared to synthetic one. Therefore, the present study was carried out to evaluate the inhibitory effect of some traditionally using herbal hair washing substances on different hair borne bacterial isolates in vitro. The test bacteria were isolated from the hair of randomly selected fifty students attached to the Faculty of science, University of Jaffna, Sri Lanka, and the bacteria were identified based on morphological, physiological, and biochemical characters. Aqueous extracts of leaves of *Clitoria ternatea* and *Ocimum gratissimum*, flower of *Hibiscus rosa-sinensis* and an herbal hair washing powder (mixture of *Trigonella corniculata*, *Phaseolus mungo*, and *Trigonella foenum-graecum*) were tested against isolated bacteria using agar well diffusion method. A commercial hair washing shampoo was used as standard and sterile distilled water was as control. All the test extracts except *O. gratissimum* were able to inhibit the growth of at least two of the test bacteria, and their antibacterial activity differed significantly ($P < 0.05$). The herbal hair washing powder inhibited all the test bacteria except *Escherichia coli* and *Bacillus sphaericus* and it produced significantly ($P < 0.05$) higher inhibition compared to other test extracts. The inhibition produced by all the test extracts except *O. gratissimum* against *Erwinia herbicola* and herbal hair washing powder against *Aerococcus* sp. were relatively higher than that produced by the standard on respective bacteria. Present study has experimentally proved the effectiveness of above plant based hair washing substances and enriched the value of traditional knowledge.

Author keywords

Antibacterial activity; Hair borne bacteria; Hair washing substance; Medicinal plants

Indexed keywords

EMTREE drug terms: shampoo

EMTREE medical terms: *Aerococcus*; agar diffusion; *Alcaligenes*; article; *Bacillus coagulans*; *Bacillus sphaericus*; bactericidal activity; bacterium isolation; black gram; clinical evaluation; *Clitoria ternatea*; *Escherichia coli*; fenugreek; growth inhibition; *Hibiscus rosa-sinensis*; in vitro study; nonhuman; *Ocimum gratissimum*; *Pantoea agglomerans*; plant leaf; *Trigonella*; *Trigonella corniculata*; *Yersinia*