

عنوان مقاله:

Comparative Phytochemical and Antibacterial Properties of Piper betle Leave Extracts from Barguna and Moheshkhali, Bangladesh

محل انتشار:

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خلاصه مقاله:

Objectives: Leaves of Piper betle are frequently used in South and Southeast Asia for traditional treatment and as a mouth freshener. Our purpose is to compare the phytochemical and antimicrobial properties of betel leaves from Barguna and Moheshkhali against Bacillus cereus, Staphylococcus aureus, and Escherichia coli. Methods: We extracted the betel leaves with acetone and ethanol according to the standard procedure. The extracts were analyzed for the presence of phytochemical properties by a standard procedure, antibacterial susceptibility by agar well diffusion method, minimum inhibitory concentration (MIC) by broth dilution assay and functional groups were obtained by FT-IR spectroscopic analysis. Results: We found the presence of a good number of phytochemicals in both Barguna and Moheshkhali extracts. Most of the cases, extracts of Moheshkhali leaves showed a greater zone of inhibition than Barguna extracts. Acetonic and ethanolic extracts of Barguna showed the minimum inhibitory concentration (MIC) from 2.12 to 4.25 mg/ml, where Moheshkhali extracts showed between 2.12-8.5 mg/ml. The functional groups obtained by FT-IR spectra analysis were compared for the extracts. Conclusions: Betel leaves can be utilized to augment the shelf life of foods, treatments and boost up immunity following comprehensive studies.

کلمات کلیدی:

Piper betle, ZOI, MIC, FT-IR, Phytochemical, Properties of P. betle leave extracts

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