

Comparative Study of Antibacterial Activity and Preliminary Phytochemical Screening of Leaves and Seeds of *Myristica fragrans*

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Myristica fragrans belongs to the family Myristicaceae (English: Nutmeg). In traditional medicine, leaves and seeds are the ingredients of Parankikilangu choornam, Periyapatnam and Vellaruku patnam. The aim of this study was to determine the antibacterial activity and Minimum Inhibitory Concentration (MIC) of decoction and methanolic extracts of leaf and seed of *M. fragrans* against *Staphylococcus aureus* NCTC 6571, five Methicilline resistant *S. aureus* (MRSA) strains, *Pseudomonas aeruginosa* NCTC - 10662 and *Escherichia coli* NCTC -10418. Leaves and seeds used to prepare the decoction and methanolic extracts. These were chemically tested qualitatively for the presence of functional groups of compounds. Screening for antibacterial activity was done using the cut well diffusion method and MIC determined using the agar dilution method. In the cut well method, the decoction and methanolic extract of leaf of *M. fragrans* showed inhibitory activity against *S. aureus* NCTC 6571 and all five MRSA strains. The diameter of the zone of inhibition produced by the decoction (16.0 ± 0.0 mm - 18.6 ± 0.5 mm) and methanolic extract (18.0 ± 0.0 mm - 19.0 ± 0.0 mm) are almost equal. The decoction of leaf of *M. fragrans* was inhibitory to *S. aureus* NCTC 6571 and the five MRSA strains up to a dilution of 1/10. The methanolic extract of seed showed activity against *S. aureus* NCTC 6571 and the five MRSA strains (17.0 ± 0.0 mm - 17.5 ± 0.4 mm). The MIC of methanolic extract of leaf and seed were 1.0 mg/ml and 5 mg/ml for *S. aureus* and all tested MRSA strains. The leaf of *M. fragrans* contains flavonoid, terpenoid, steroids, alkaloids and tannin and seed contains of terpenoid, alkaloid and cardiac glycosides. Both decoction and methanolic extract of leaf and seed of *M. fragrans* inhibits the growth of methicillin sensitive as well as methicillin resistant *S. aureus*. The leaves of this plant demonstrated higher activity compared with the seed.

Keywords: *Myristica fragrans*, methanolic extracts, decoction

Reasons for Scarcity of Medical Herbs in Traditional Medicine in Kekirawa Region

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The practice of using medicinal herbs can be dated back to ancient cultures and civilizations. It was at this time the healing power of herbs is recognized and thus it became the predominating element in different types of medicinal practices even in the present times. Ayurveda, Siddha, Unani and traditional medicines are different types of medical practices which vastly depend on the use of medical herbs. Kekirawa region is well known for the practice of traditional medicine. The practitioners in this region use different varieties of herbs to cure different types of diseases. And it varies from one practitioner to other. Yet the practice of using the medical herbs in this region is not recorded or documented in any written materials. In the reason times there is a decrease in the use of medical herbs among these medical practitioners. Therefore the main purpose of this present paper is to find the reasons for the decrease use in the amount of medicinal herbs. Further it identifies the medicinal herbs which are used by the medical practitioners in Kekirawa region and it gives suggestions to increase the use of herbs. This is a qualitative research based on primary and secondary data. Primary data is collected through interviews, questionnaires and observation. Secondary data is collected through written materials on medical herbs, related research articles on medicinal herbs. Data analysis is explained through bar charts and charts. In the recent times the findings show that the use of medical herbs is decreasing nearly to the level of 80%. The main reason for this decrease is due to the influence of English medicine. Further there are many other challenges such as deforestation, environmental challenges: such as scarcity of herbal plants, problem of herbal cultivation methods, and socio economical and individual problems of the medical doctors.

Keywords: Medicinal herbs, Practitioners, Traditional medicine