α-Amylase enzyme inhibitory and antifungal activity of some local vegetables

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Plants have been considered as enormous source of important bioactive natural products with potential applications in agriculture, pharmaceutical, food industry and cosmeceutical. α-Amylase hydrolyses starch and increase postprandial blood glucose levels. Inhibition of α-amylase can delay the carbohydrate digestion and finally reduce the glucose absorption rate, consequently decreasing postprandial plasma glucose levels.Fungal pathogens cause a number of plant and animal diseases and it has become a serious problem. Therefore, this research was focused to evaluate the α-amylase inhibitory and antifungal activity of some local vegetables in Sri Lanka; *Abelmoschus esculents, Brassica caulorapa, Cucurbita maxima, Cucumis melo, Cucumis sativus, Momordica charantia, Momordica dioica, Musa paradisiaca, Psophocarpus tetragonolobus, Raphanus raphanistrum* and *Vigna unguiculata.* Healthy vegetables were collected from Central market, Kandy. Dried powered samples of these vegetables were sequentially extracted with *n*-hexane, ethyl acetate and methanol using ultra-sonicator. Solvents were evaporated under vacuum to obtain crude extracts. Each crude extract was screened for α-amylase inhibitory activity and antifungal activity against *Cladosporium cladosporioides*. Hexane extract of *R. raphanistrum* (leaves), ethyl acetate extracts of *B. caulorapa*, *R. raphanistrum* and methanol extract of*C. sativus* showed over 80% inhibition of α-amylase enzyme at 1000 ppm. It can be suggested that these vegetables have potential to reduce the rate of digestion and absorption of carbohydrate. Hexane extracts of *R. raphanistrum* (leaves)and *M. charantia* andethyl acetate extract of *M. charantia* showed strong antifungal activity against *C. cladosporioides*. Therefore, *R. raphanistrum* and *M. charantia* are potential sources of environmental friendly antifungal agents.

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