In vitro inhibitory potential of selected Malaysian plants against key enzymes involved in hyperglycemia and hypertension.

ABSTRACT

Introduction: This study was conducted to determine the inhibitory potential of selected Malaysian plants against key enzymes related to type 2 diabetes and hypertension. Methods: The samples investigated were pucuk ubi (Manihot esculenta), pucuk betik (Carica papaya), ulam raja (Cosmos caudatus), pegaga (Centella asiatica) and kacang botol (Psophocarpus tetragonolobus). The inhibitory potential of hexane and dichloromethane extracts against the enzymes were determined by using α-amylase, α-glucosidase and angiotensin I-converting enzyme (ACE) inhibition assay. Results: In α-amylase inhibition assay, the inhibitory potential was highest in pucuk ubi for both hexane (59.22%) and dichloromethane extract (54.15%). Hexane extract of pucuk ubi (95.01%) and dichloromethane extract of kacang botol (38.94%) showed the highest inhibitory potential against α- glucosidase,while in ACE inhibition assay, the inhibitory potential was highest in hexane extract of pegaga (48.45%) and dichloromethane extract of pucuk betik (59.77%). Conclusion: This study suggests a nutraceutical potential of some of these plants for hyperglycemia and hypertension prevention associated with type 2 diabetes.

Keyword: Carica papaya; Centella asiatica; Cosmos caudatus; Manihot esculenta; Psophocarpus tetragonolobus; In vitro inhibitory potential.