

PHYTOCHEMICAL SCREENING AND INVITRO ANTIOXIDANT ACTIVITY OF METHANOLIC EXTRACT OF SELECTED NIGERIAN VEGETABLES

Hamzah RU, Jigam AA, Makun HA and Egwim EC

Federal University of Technology, School of Natural and Applied Sciences

Department of Biochemistry, Minna, Niger State, Nigeria

Corresponding Author Email: rabiune@yahoo.com or rabiola@futminna.edu.ng

ABSTRACT

Antioxidants are substances known to protect the body from damage caused by reactive oxygen species induced oxidative stress. Studies have shown that the consumption of vegetables is capable of inhibiting the damaging effect of free radical in the body. Hence in this study, the invitro antioxidative properties of methanolic extract of *Adansonia digitata*(AD), *Celosia argentea var argentea* (CE), *Corchorus olerius L.*(CO), *Gnetum africanum*(GA), *Gongronema latifolium*(GL), *Hibiscus sabdariffa*(HS), *Moringa oleifera*(MO), *Piper guineense*(PI), *Sesamum radiatum*(SR), *Solanum melongena*(SG) and *Pterocarpus mudbraedii* (PM) were investigated. Qualitative and quantitative phytochemical screenings of the vegetable extracts were determined using Standard method and the antioxidative activity was assessed using I,1-diphenyl-2-picrylhydrazyl(DPPH) and reducing power method . The results obtained showed the presence of alkaloids, saponins, tannins, total phenols and flavonoids in all vegetable extracts. Methanolic extract of *Pteocarpus mildbraedi* showed a significantly high ($P < 0.05$) total phenol and tannin content of 499.78 ± 1.80 mg/g and 466.23 ± 6.30 mg/g respectively. *Corchorius olerius* extracts had the most significant amount of flavonoids of 157.38mg/g when compared to other extracts and this was followed closely by *Pteocarpus mildbraedi* extracts with a value of 127.88 ± 0.13 mg/g. All vegetable extracts scavenge 1, 1, Diphenyl-2-picrylhydrazyl (DPHH) free radical scavenging activity in a dose dependent manner. *Pteocarpus mildbraedi* and *Sessasum radiatum* was observed to have the most significant DPPH scavenging activity and reductive potential compared to other extracts. These vegetables can be considered as good source of pharmacologically important phytoconstituents which possess strong antioxidant activities and can be harnessed in the prevention and treatment of degenerative diseases.

Keywords: Antioxidants, Free radicals; Phytochemicals; Reducing power.