Pure Sciences **Poster**

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Quantification of Total Phenolics Content and Their Antioxidant Scavenging Capacity in Selected Herbs Extract

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Introduction: *G. procumbens, H. sabdariffa* and *C. nutans* contain potential compounds that lead to the development of drugs and supplements. The quantification of phenolic compound was conducted by analyzing the compounds at 3 different fractions (free, insoluble bound and soluble bound). Thus, the objectives of this research were to determine TPC and antioxidant of the plants in three different extracts. **Methods:** Three replicates of the medicinal plants were extracted with 80% methanol and hydrolysis with HCl and NaOH. The TPC was determined by using Folin-Ciocalteau reagent while antioxidant radical scavenging capacities were analyzed by using the DPPH assay. **Results:** Results showed that the TPC of the *G. procumbens* and *C. nutans* extracts of the insoluble bound extract had the highest amount of phenolic compounds (15.19 ± 0.25 mg of GAE/g and 6.09+ 0.45 mg gallic acid equivalent GAE/g DW, respectively) as compared to the other fractions ($p<0.05$). In contrast, *H. sabdariffa* had the highest TPC value inbound soluble phenolic compound (7.63 + 0.28 mg GAE/g DW) than the other fractions ($p<0.05$). The antioxidant scavenging capacity of the *G. procumbens* and *C. nutans* extracts showed that highest IC_{50} values in the insoluble bound extract > free > soluble bound extract, whereas the bound soluble of *H. sabdariffa* showed highest IC_{50} value > free >bound insoluble phenolic extracts. **Conclusions:** Strong correlations were found between TPC with antioxidant radical scavenging capacity. This finding proved that these three plants could be a good source of natural antioxidant for food, cosmetic and pharmaceutical industry.

KEYWORDS: TPC, antioxidant scavenging capacity, DPPH assay, free phenolic, soluble bound phenolic, insoluble bounds phenolic