

OP 25 - Herbal Mouthwash with Potential Antioxidant Activity

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Background: Herbal mouthwash provides a viable alternative as they are alcohol-free, chemical free and contains time tested herbal oils and plant extracts that promote oral health.

Objectives: The aim of the present study was to formulate herbal mouthwash with potential antioxidant activity using freeze dried powder of 70% aqueous acetone defatted crude leaf extract obtained from *Buahinia racemosa* plant.

Methodology: Aqueous acetone (70%) crude extract was prepared by steeping method and partitioned with hexane to obtain defatted crude extract which was subjected to preliminary phytochemical tests. The total phenolic, total flavonoid contents of the extract were performed by using Folin Ciocalteu method and Aluminiumchloride method respectively. In vitro antioxidant activity was evaluated by using 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay. A herbal mouthwash with different formulations were prepared by incorporating the freeze dried powder of the leaf extract and subjected to evaluate in vitro antioxidant activity compared to two different commercial products. The physical parameters (pH, odor, appearance, homogeneity) were also tested for 14 days at room temperature.

Results and conclusions: Preliminary phytochemical screening revealed the presence of phenolic compounds, flavonoids, saponins, carbohydrates and reducing sugars. The results of the total phenolic content, total flavonoid content and antioxidant capacity measured by DPPH assay were 5244.353 mg GAE/100 g, 3704.488 mg CAE/100 g and 5.934 mmolTrolox equivalents/100 g dry weight (DW) of the leaves respectively. The formulated herbal mouthwash was found to be liquid, homogenous and red colour with pleasant odor. The pH of the mouthwash was found to be in the range of 6 to 7. It is concluded that the *B. racemosa* leaves have promising antioxidant activity and the formulated mouthwash should be further investigated to be commercialized as a herbal mouthwash with potent antioxidants.

Keywords: Antioxidant activity, *Buahinia racemosa*, DPPH assay, flavonoids, mouthwash