

Comparative Study on Phytochemical Screening of Different Solvent Extracts of Palmyrah Tuber (Unboiled and Boiled) Flour

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Palmyrah (*Borassus flabellifer*) palms can be believed as a gift of nature as they contribute wide range of vital products for human diet and existence. Among Palmyrah products Flour are highly utilized by local population. Two types of flour such as as unboiled tuber flour (*Odiyala*) and boiled tuber (*Pulukkodiyala*) flour are produced by grinding dried unboiled (raw) tuber and dried boiled tuber respectively. In this study the phytochemical screening of different solvent extracts such as water, methanol, ethyl acetate and petroleum ether was evaluated. Samples were collected from three different branches of Palmyrah Development Board. Components were determined using qualitative and quantitative tests. Based on the qualitative tests boiled tuber flour extracts revealed positive results for carbohydrates, saponins, phytosterols, phenols, flavonoids, proteins and amino acids, tannin and fats & fixed oils was gave positive result. While raw *Odiyala* flour gave positive results for carbohydrates, saponins, phytosterols, phenols, flavonoids, proteins and amino acids and fats & fixed oils, In quantitative analysis total phenolic content, flavonoid content and saponin content were determined. Highest total phenolic content were observed in aqueous extract of *Odiyala* flour [12.8 ± 0.03 mg/g] and methanolic extract [3.15 ± 0.05 mg/g] of *Pulukkodiyala* flour. Among the four solvent extracts methanolic extract of *Pulukkodiyala* flour [0.57 ± 0.03 mg/g] and *Odiyala* flour [0.38 ± 0.01 mg/g] was showed highest values for flavonoid content. Methanolic extracts of *Pulukkodiyala* flour and *Odiyala* flour showed highest total saponin content (87.24 ± 2.88 mg/g and 89.692 ± 1.31 mg/g respectively) compared with other extracts. Extracts of both Flour obtained using ethylacetate and petroleum ether contained lowest level of total phenolic and flavonoid content and saponin content. The present results reveled that total phenolic and saponin content of both methanolic and aquous extracts of *Pulukkodiyala* flour was less than those of *Odiyala* flour, which could be due to the leaching losses of water soluble components during processing of *Pulukkodiyala*. Therefore based on the findings of this research work that increased efforts would be made to encourage the utilization of palmyrah based food products.

Key words: *Pulukkodiyala* flour, phytochemical, *Odiyala* flour, phenols, flavonoids