

**EXPLORING THE ANTIOXIDANT POTENTIALS AND PHYTOCHEMICALS OF THE EXTRACTS OF BABY COCONUT (“KURUMBATTI”) OF *Cocos nucifera***

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Phyto-remediation for wound healing has gained interest because of its potential to aid the healing process with minimal side effects compared to synthetic drugs. Notably, most of these remedies are rich in antioxidants, which reduce oxidative stress, enhance collagen synthesis, improve blood circulation, and help in wound healing. Paste made with the baby coconut (“kurumbatti”) is a traditionally used remedy in Sri Lanka for wound healing. However, no scientific exploration on bioactivities or the phytochemical constituents of the baby coconut has been reported. Hence, this study aimed to identify the antioxidant potential and the phytochemical constituents of crude extract of baby coconut. Baby coconuts were collected within a day after their fall and extracted into hot water by refluxing (3 hr), cold water, methanol, and water-acetone (1:1) solvents separately by maceration (24 hr x 3). The antioxidant potentials of the crude extracts were assessed using the 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay and the ferric ion-reducing antioxidant power (FRAP) assay. In addition, crude extracts were subjected to phytochemical screening tests to determine the presence of alkaloids, saponins, phenols, tannins, flavonoids, diterpenes, quinones, carbohydrates, proteins, and betacyanin. The highest yield was obtained with water-acetone (1:1) extract (35%), while the lowest yield was from methanol extract (12%). These results highlight the advantage of using a mixed solvent system as it extracts both polar and non-polar compounds compared to other methods. The IC<sub>50</sub> values resulted from the DPPH assay are: 423.87 ± 3.16 µg/mL (methanol), 35.71 ± 2.85 µg/mL (cold water), 17.64 ± 1.09 µg/mL (water-acetone), and 13.50 ± 1.94 µg/mL (hot water). The FRAP values for each extract are; 478.66 ± 3.23 µM Fe<sup>2+</sup>/g (hot water), 398.76 ± 2.46 µM Fe<sup>2+</sup>/g (cold water), 130.71 ± 2.16 µM Fe<sup>2+</sup>/g (water-acetone), and 68.53 ± 1.85 µM Fe<sup>2+</sup>/g (methanol). Findings indicated that the hot water extract exhibits the highest radical scavenging ability and the reducing ability. Hot water extract resulted in the highest amount of phytochemicals, including saponins, phenols, tannins, flavonoids, diterpenes, quinones, carbohydrates, proteins, and betacyanin. The superior phytochemical content of the hot water extract correlates with its highest free radical scavenging ability and greatest reducing power.

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