EVALUATION OF PHYTOCHEMICAL VARIATIONS AND ANTIOXIDANT ACTIVITY OF *SITOPALADI CHURNA*: A POLYHERBAL FORMULATION IN AYURVEDA FROM DIFFERENT GEOGRAPHICAL AREAS

H.A.S. Amarasinghe and S.D. Hapuarachchi*

Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.
*dr.sdhapuarachchi@fim.cmb.ac.lk

Present study aimed to determine the phytochemical variations and antioxidant activity of *Sitopaladi churna* (SC), a polyherbal formulation in Ayurveda, focusing on the geographical origin of cardamom (*Elettaria cardamomum*). Cardamom seeds were labeled respectively (C1-C8) from eight regions of Sri Lanka. (Badulla, Kandy, Kegalle, Kurunegala, Matale, Matara, Nuwara Eliya, and Ratnapura). They were used to prepare 16 different SC samples with two varieties of cinnamon (Sri Gemunu-SC1 and Sri Vijaya-SC2) and other herbs, including *Piper longum, Bambusa arundinacea*, and sugar cubes. Water extracts were analyzed for qualitative and quantitative phytochemicals, and antioxidant activity was measured using the DPPH radical scavenging assay. The qualitative analysis confirmed the presence of alkaloids, flavonoids, and saponins in all samples. Total phenolic content was highest in SC1C4 (Sri Gemunu, Cardamom from Kurunegala) and lowest in SC1C8 (Sri Gemunu, Cardamom from Ratnapura). The highest total flavonoid content was found in SC2C2 (Sri Vijaya, Cardamom from Kandy), while the lowest was in SC2C3 (Sri Vijaya, Cardamom from Kegalle). Antioxidant activity was greatest in SC2C1 (Sri Vijaya, Cardamom from Badulla) and lowest in SC1C1 (Sri Gemunu, Cardamom from Badulla). These results highlighted the significant variability in the phytochemical profiles and antioxidant properties of SC from different geographical areas. These findings emphasize the importance of geographical origin in determining the therapeutic potential of *Sitopaladi churna* in clinical practice.

Keywords: *Sitopaladi churna*, Phytochemical properties, Antioxidant activity