

Analysis of the metal content in Ayurvedic medicated oil; *Vāthavidurangādī thaila*

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Abstract

The Ayurvedic medicines of herbo-mineral origin are widely used in Sri Lanka. The metal contamination in such products is frequently reported in recent years. As accumulation of excessive amount of metals in the human body leads to various health hazards, the precise determination of such contaminants is required for safety assurance before usage. The Ayurvedic medicated oil, *Vāthavidurangādī Thaila*, is a popular medication prescribed by Ayurvedic physicians to treat several diseases and disorders. Therefore, this study was conducted to determine the concentration of selected metals in commercially available samples of *Vāthavidurangādī Thaila* using Atomic Absorption Spectrometry (AAS). The ten samples of *Vāthavidurangādī Thaila* collected from Colombo, Kandy, Kalutara, Galle and Gampaha districts were analyzed, for the content of Aluminum (Al), Copper (Cu), Cadmium (Cd), Chromium (Cr) and Lead (Pb) after acid digestion of samples with conc. HNO₃, H₂O₂ and 70% HClO₄. According to the results, Cu was found in all samples, Cr was detected in six samples but Pb was detected only in four samples. Al, Cu, Cd, Cr and Pb contents in oil samples were found in the range of 0.29-9.54 ppm, 2.34-10.80 ppm, 0.04-0.25 ppm, 3.02-4.39 ppm and 0.98-2.81 ppm respectively. The mean concentration values of Al, Cu, Cd, Cr and Pb were 4.7088 ppm, 4.7844 ppm, 0.0576 ppm, 1.5912 ppm and 0.8568 ppm respectively. The trend of abundance of metals in oil samples of *Vāthavidurangādī Thaila* followed the sequence of Cu > Al > Cr > Pb > Cd. According to the results, Al and Cr contents in some of the oil samples were higher than the maximum allowable limit recommended by WHO in drinking water. Chromium and Aluminum are not permissible for herbal medicines according to the WHO standards but Cd, Pb, Cu contents in all oil samples were lower than the maximum allowable limit recommended by WHO in herbal medicines.

Keywords: Ayurveda medicated oil, Permissible level, WHO standards.

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