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Determination of Toxic Heavy Metals in Commercially available brands of Baby Talcum Powder

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Abstract : *Heavy metals pollution is a serious concern in present times due to their potential health risks and environmental effects. Accurate management and monitoring of metal concentrations in various products is important to minimize potential health risks and from exposure to such toxic substances. In this study, levels of lead, cadmium and mercury in daily use baby product i.e., baby talcum powder were assessed. Samples were analyzed for heavy metals using Atomic Absorption Spectrophotometry (AAS) after acid digestion. The concentrations of lead ranged from 0.240 ppm to 0.430 ppm which was highest amongst the three metals while mercury concentrations ranged from 0.005 ppm to 0.025ppm which was least and cadmium levels were intermediate ranging from 0.015 ppm to 0.027ppm. These were within the permissible range by FDA. However prolonged use may pose threat to human health due to dermal contact and accumulation and can result to various health issues such as aspiration, talcosis, skin problems etc. in babies (most vulnerable group).Proper mining of talc is also necessary to avoid asbestos contamination which is carcinogenic. Overall study indicated high lead, cadmium and mercury level in baby talcum powder and the need for regulatory laws and proper inspection to safeguard public health.*

Keywords: *Heavy Metal Pollution, Lead, Cadmium, Mercury, Baby powder, AAS, Public Health.*

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Introduction :

Heavy metals are naaturally occurring elements that have high atomic weight and specific gravity (density) of more than 5g/cm^3 than that of water (Fergusson, 1990). Increasing industrialization, medical and technological advancements are causing heavy metal pollution and is a major cause of concern in global terms (Bradl, 2002).