

AN IN-DEPTH ANALYSIS OF TOXICOLOGICAL EVALUATIONS OF MERCURY-CONTAINING HERBO-METALLIC FORMULATIONS IN AYURVEDIC MEDICINE

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Herbo-metallic preparations are a unique type of medicinal preparations in Ayurvedic Rasa Shastra, where mercury is considered the main ingredient. Despite containing mercury, these formulations have been time-tested for centuries with remarkable therapeutic benefits. However, the safety of these medicinal preparations is subject to question today, as mercury is considered a heavy toxicant in the modern world of science. Therefore, it is crucial to evaluate the toxicological profiles of these formulations to investigate the science behind them. Thus, this analysis aims to evaluate the toxicity studies published online on Mercury-containing Herbo-Metallic Preparations in Ayurveda (M-HMP). Pre-clinical toxicity studies were gathered for the study by searching online databases such as PubMed, Google Scholar, Research Gate, and Science Direct under pre-defined inclusion and exclusion criteria. The gathered studies were subjected to an in-depth analysis, summarizing and presenting the data and information obtained in tables and charts. From the literature search, a total of 69 studies were selected from 57 research articles, where 37 M-HMP had been tested. Only 08 out of the 69 studies showed evidence of toxicity, whereas 61 studies showed otherwise. This study also identified and emphasized the factors that can cause toxicities while using these preparations, along with research gaps for future studies. In conclusion, 88.41% of the pre-clinical toxicity studies selected for the study revealed that M-HMP were safe at their therapeutic dose under the prescribed duration.

Keywords: Herbo-metallic preparations, Mercury, Toxicity, Ayurveda, *Rasa shastra*