

**Characterization of a Mercury based Siddha Drug -
*Sinna Sivappu mathirai***

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Siddha system of medicine is always characteristic due to the incorporation of metals and minerals in their preparations. Sinna Sivappumathirai, compound drug, Cinnabar (Sathilingam) is very useful in Siddha system of medicine. This drug has reached extensive acceptability as therapeutic agents for respiratory symptoms, such as cough, breathing difficulties, chest pain and fever. However, in spite of their efficacy, they have been widely criticized due to the presence of high level of toxic substances such as heavy metals because Cinnabar is mainly composed of Hg²⁺. The present study was designed to prove the level of mercury after purification and drug manufacturing process of Sathilingam. To assure the quality of Sinna Sivappumathirai, the raw material, purified material and drug sample were subjected to qualitative and quantitative analysis. The test samples for this study were obtained from three major different manufactures in Northern Province, such as Siddha Teaching Hospital, Everest-private manufactures and Drug Manufacturing Unit, ministry of Health and Indigenous medicine. The qualitative studies revealed that drug contain Mercury, Sulphur, Calcium, Potassium and Chlorine which were found in trace amount in the drug samples. The quantitative analysis was carried out with respect to the presence of Mercury (II) by gravimetry. Quantitative gravimetric determination showed that the weight percentage of Hg²⁺ in raw material was lie between 83% and 85% whereas the drug contains the weight percentage of Hg²⁺ between 9% and 11%. The level of Hg²⁺ was found to be very less in drug sample than the raw material. Thus, the intention of purification by lime juice and drug manufacturing process help to reduce the toxic metal amount in the resulting drug via herbo-metallic formulation.

Keywords: Sinna Sivappumathirai, Cinnabar, Mercury, Aqua regia.