

**DEVELOPMENT OF *DHUMAPANA YANTHRA* (FUMIGATION APPARATUS) AS AN
ELECTRONIC DEVICE**

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Dhumapana (Ayurvedic inhalation therapy) stands out as a unique treatment, particularly recommended for respiratory and head-related conditions associated with imbalances in the *Vata* and *Kapha doshas*. *Dhupana* (external fumigation) is similarly used in certain contexts, such as for managing piles, chronic wounds, infections, skin disorders, and ear diseases. This research aimed to develop an electronic device for use in both inhalation and fumigation purposes, addressing drawbacks such as unstable thermal output, safety risks, and the ergonomically challenging traditional methods. The device consists of three main components: a chamber to hold the *Dhuma varti*, a heating unit for smoke generation, and an outlet system for controlled smoke delivery. The heating mechanism utilizes a metal coil powered by a 12V, 5A power source, enabling the production of therapeutic smoke while preventing direct incineration. The outlet component, made of earthen material, incorporates a basic filtration system that purifies stored fumes before inhalation, enhancing both safety and user comfort. Temperature stability test, material durability assessment, user experience trials, interface accessibility study, and ergonomic design evaluation were carried out to evaluate the functional and technical performance. Overheating risk test, Electrical safety audit, and combustion avoidance verification were done as Safety Investigations. The results demonstrated that the electronic *Dhumapana* device produced consistent smoke, safety features and a comfortable user experience. Smoke composition analysis, filtration efficiency evaluation, and particle size and density testing are suggested to further validate the therapeutic output and enhance performance assessment of the developed device.

Keywords: *Dhumapana yantra, Dupana, Inhalation, Electronic device*