

**ANALYSIS OF CHEMICAL PARAMETERS OF *KEEZHANELLI CHOORANAM*
TOWARDS STANDARDIZATION: A TRADITIONAL SIDDHA MEDICINE**

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The standardization of herbal formulations, crucial for ensuring the quality, purity, safety, and efficacy of plant-based drugs. This study focused on establishing standardization parameters for *Keezhanelli chooranam*, a traditional Siddha medicine prepared from *Keezhanelli* (*Phyllanthus amarus*) as mentioned in the Siddha Pharmacopoeia of India. Siddha literature highlights its potential in treating *Madhumegam* (diabetes mellitus), *Kannoikal* (eye diseases), *Mega noi* (sexually transmitted diseases) and *Mega Pun* (wounds from sexually transmitted diseases). KNC was prepared following classical Siddha procedures and modern techniques instrumental techniques analyzed according to WHO guidelines. Physico-chemical analysis revealed a brownish, moderately fine powder with a characteristic odour and soft consistency. Particle size was determined to be $94.67 \pm 25.5 \mu\text{m}$. The *Keezhanelli chooranam* exhibited solubility in ethanol, water, and DMSO. Further analysis showed the loss on drying of $5.467 \pm 0.30\%$ at 105°C , a total ash content of $0.31 \pm 0.026\%$, and no acid-insoluble ash detected. Water and alcohol-soluble extractable matters were found to be $9.467 \pm 0.40\%$ and $6.1 \pm 0.2\%$, respectively, with a pH of 6.6. Elemental analysis (ICP-OES) confirmed the absence of heavy metals like mercury, lead, arsenic, and cadmium, ensuring safety. High-performance thin-layer chromatography (HPTLC) analysis of the sample revealed the presence of at least ten prominent peaks in the chromatogram. These peaks indicate the presence of unidentified phytochemicals with retardation factor values ranging from 0.01 to 0.66. Sterility and selective media tests showed no microbial growth, confirming the product is free from contamination. The study concluded that the established standardization parameters for KNC meet the prescribed limits, suggesting its quality and safety and further research needed for standardization of *Keezhanelli chooranam*.

Keywords: *Keezhanelli chooranam*, *Keezhanelli*, *Phyllanthus amarus*, Standardization, Siddha Medicine