

## OP 11

### Evaluation of quality parameters of Triphala tablets available in the Sri Lankan market

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**Background:** Triphala is a widely used polyherbal preparation in Ayurvedic system. There is a requirement to test the quality, safety and efficacy of Triphala tablets commercially available in Sri Lanka.

**Objective:** This investigation was performed to evaluate the quality parameters of Triphala tablets available in the Sri Lankan market.

**Method:** Five Triphala tablet brands (A, B, C, D, E) were collected from the local market. Tablets were evaluated for sensory, physicochemical parameters and heavy metal content according to British Pharmacopoeia (BP) 2013, WHO, Association of Official Analytical Chemists (AOAC) and European pharmacopoeia 2020 methods. Thin Layer Chromatography (TLC) and High Performance Liquid Chromatography (HPLC) were performed to identify marker compounds in Triphala tablets.

**Results:** Average weight of tablet samples were range within 515.0±25.0-763.5±17.0 mg (% Relative Standard Deviation RSD=18.1). The Friability of tablets range within 0.11- 6.93 % (% RSD = 83.0). Disintegration time of tested tablets was range within 28-106 min (% RSD = 47.2). Water, methanol and 70% (v/v) aqueous acetone soluble extractives of tablets were within the range of 36.0±0.1-56.8±0.6% (w/w), 37.0±0.2-62.70±0.3% (w/w) and 34.3±7.0 - 57.7±1.1% (w/w) respectively (% RSD = 17.3, 23.0, 24.1). Total tannin content of tablets varied within 55.4±0.3-175.8±0.1 mg/tablet (% RSD = 45.1). Presence of gallic acid (GA) and ellagic acid (EA) in all brands were confirmed by TLC ( $R_f(\text{GA})=0.9$ ,  $R_f(\text{EA})=0.8$ ) and HPLC ( $t_{R(\text{GA})}=3$  min,  $t_{R(\text{EA})}=14$  min at 254 nm). Mercury, cadmium and arsenic were not detected in tablets. Lead was found in brand D and E within the permissible limit.

**Conclusion:** The quality of a medicine directly affects the therapeutic actions of it. Tested samples of Triphala tablets showed variations in its quality parameters; average weight, friability, disintegration time, extractive values and tannin content. This investigation revealed the necessity of standardization of Triphala tablets manufactured in Sri Lanka.

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