

DETERMINATION OF TOTAL TANNIN CONTENT OF AMURTHASHTAKA KWATHA AND ITS EIGHT RAW PLANT MATERIALS USING A TITRIMETRIC METHOD

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Medicinal plants have been considered as a promising drug for the management of diverse health implication due to its pharmacological effects. *Amurthashtaka kwatha* (AK) is an ayurvedic polyherbal formulation used in the treatment of fever associated with inflammation. Tannins are polyphenols commonly found in many plants product of secondary metabolism. This study aims to determine total tannin content quantitatively in AK and its eight raw plant materials using a titrimetric method. Plant parts of *Azadirachta indica* (bark), *Cyperus rotundus* (rhizome), *Holarrhena antidysenterica* (seeds), *Picrorhiza scrophulariiflora* (rhizome), *Santalum album* (heartwood), *Tinospora cordifolia* (stem), *Trichosanthes cucumerina* (whole plant) and *Zingiber officinale* (rhizome) were purchased from the three different Ayurvedic shops and two natural habitats. According to the place of collection, five samples of AK were prepared from the authenticated eight different plant materials as per the guidelines of Ayurveda pharmacopeia of Sri Lanka. Total tannin content was estimated by titrimetric method as recommended by the API (Ayurvedic Pharmacopoeia of India) from individual raw powders and AK. The tannin contents of five different samples of bark of *Azadirachta indica* have exhibited the range of 9.28±0.28 - 17.74±0.28%. The range of rhizome of *Cyperus rotundus* samples were 2.49±0.48 - 4.85±0.14%. The percentage tannin contents of seeds of *Holarrhena antidysenterica* samples were given the range of 6.10±0.14 - 11.36± 0.28 %. The range 12.89±0.24 - 14.69±0.28% has been recorded for the rhizome of *Picrorhiza scrophulariiflora* samples. The ranges for the heartwood of *Santalum album*, stem of *Tinospora cordifolia*, whole plant of *Trichosanthes cucumerina* and rhizome of *Zingiber officinale* were 5.27±0.28- 7.21±0.14%, 5.82±0.24- 8.18±0.37%, 7.34±0.14- 8.31±0.24% and 8.18±0.14-8.59±0.37% respectively, while the powders of AK samples were given tannin percentage rage as 8.31±0.24- 9.01±0.28%. According to the findings, the *Amurthashtaka kwatha* and its raw plant materials are rich sources for tannins. This phytochemical could make various pharmacological activities and useful in food and medicine applications.

Keywords: *Amurthashtaka kwatha*, *Ayurvedic pharmacopeia*, *polyherbal*, *tannin* and *titrimetric method*

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