

PP 04

In-vitro Antioxidant Activity of Methanol Extract of Medicinal Herbs Used in Athiyathi Kashayam: A Siddha Polyherbal Formulation

Devappriya B.T.M.¹, Sameem M.L.M.¹, Ilham F.M.¹, Sivasinthujah S.^{1#}, Sivarangini S.²

¹Department of Pharmacy, Faculty of Allied Health Science, University of Jaffna, Sri Lanka

²Department of Sirorogam and Aruviai Maruthuvum, Faculty of Siddha Medicine, University of Jaffna, Sri Lanka

#Corresponding author: ssinthujah@univ.jfn.ac.lk

Background: Antidiabetic drugs possess antioxidant properties that help to manage diabetic complications associated with oxidative stress. *Athiyathi Kashayam* (AK) is a polyherbal formulation consisting of *Ficus racemosa*, *Syzygium cumini*, *Salacia reticulata*, *Cassia auriculata*, and *Cassia fistula*. According to Siddha literature, it is utilized in the treatment of diabetes mellitus (DM). There has been a study reported on the antioxidant potential of *Kashayam* in India. However, there has been no investigation done on methanol extract of the herbs used in AK.

Objective: To evaluate antioxidant activity of methanol extract of medicinal herbs used in *Athiyathi Kashayam* using 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay and ferric reduction assay

Methods: The fresh barks of *F. racemosa*, *S. cumini*, *C. auriculata*, *C. fistula* were collected from Kegalle District and *S. reticulata* was collected from Mullaithivu District. They were shade dried and powdered into fine powder. The crude drug was prepared according to the specified ratio, with equal amount of *F. racemosa*, *S. cumini* and *S. reticulata* and double amount of *C. auriculata* and *C. fistula*. The methanol extract of polyherbal formulation was prepared by the maceration process. The *in-vitro* anti-oxidant activity of polyherbal extract was evaluated through DPPH assay and ferric reduction assay using ascorbic acid as the standard.

Results: The IC₅₀ value of methanol extracts of AK was found to be 18.78 µg/mL, whereas in ascorbic acid it was 11.92 µg/mL. The ascorbic acid equivalents in ferric reduction assay for the formulation was 76.48 µg/mL, AAE/g at 200 µg/mL concentration.

Conclusions: This study indicated that, methanolic extract of the polyherbal AK was found to exhibit strong antioxidant activity. Further studies are needed to understand the *in-vivo* antioxidant potential of the polyherbal formulation.

Keywords: Anti-oxidant activity, Methanol extract of Aathiyathi khashyam, DPPH assay, Ferric reduction, Polyherbal