

**IN VITRO ANTIOXIDANT AND FREE RADICAL
SCAVENGING POTENTIAL OF METHNOLIC SEED
EXTRACT OF *PHYSALIS COAGULANCE***

Nimbekar T.P.,*¹, Katolkar P.P.¹, Wanjari B.E., Dongarwar A.S., Patil A.T.

¹Manoharbai Patel Institute of Pharmacy (B. Pharm), M. I. E. T. Campus, Kudwa,
GONDIA-441614,

²Department of Pharmaceutical Sciences, RTM Nagpur University, **NAGPUR- 440 033.**

The antioxidant activity of the methanolic extract of seeds of *Physalis coagulance* was evaluated *in vitro* by various experimental parameters such as DPPH radical scavenging activity, nitric oxide scavenging, hydroxyl radical scavenging activity and lipid per oxidation. Also, ferric ion reduction capability of the evaluated extracts, total antioxidant capacity and total phenolic content were also determine. The result shows that *Physalis coagulance* displayed potent antioxidant properties. The freshly prepared extracts were subjected to preliminary phytochemical screening test for various constituents. This revealed the presence of alkaloids, tannins, saponins, flavonoids, glycosides, phenolic compounds, terpenoids and steroids. The antioxidant activity may be attributed to the phenolics present in methanolic extract of the seeds.

INTRODUCTION

The importance of the reactive oxygen species (ROS) has attracted increasing attention over the last decade. Reactive oxygen species include free radicals such as super oxide anion radicals, hydroxyl radicals, non free radicals such as hydrogen peroxide and singlet oxygen, along with various forms of activated oxygen (Halliwell and Gutteridge, 1989.). They are involved in various physicochemical processes and disease such as aging, (Finkel and Holbrook, 2000) cancer (Senthil *et al.*, 2004) and atherosclerosis (Upston *et al.*, 2003) Butyl hydroxyl anisole (BHA) and butyl hydroxyl toluene (BHT) are the most the commonly used antioxidants, but both are suspected to cause liver damage (Buxiang and Fukuhara, 1997). The prominent manifestation of free radical activity in biological systems is lipid per oxidation and it is involved in the development of different diseases. The reaction of thiobarbituric acid (TBA) with Malondialdehyde (MDA) and linked chromogens to lipoperoxides in biomaterials result in well known method “Thiobarbituric acid Reactive substances” (TBARS). MDA is inferred to be cytotoxic and it has been found at elevated level in various diseases through to be related to free radical damage (Kaur and Kapoor, 2001). Therefore, research has focused on the use of antioxidants, with particular emphasis on naturally derived antioxidants, which may inhibit reactive oxygen species (ROS)

* Corresponding Author