

ABSTRACT

The present research work was carried out to investigate the antioxidant activity of some freshwater algal species from Lahore. Samples were collected from two different localities of Lahore in the month of February. The collected species were identified as *Cladophora glomerata*, *Ulothrix aequalis* and *Rhizoclonium hieroglyphicum*. For evaluation of the antioxidant activity three solvents were selected that were chloroform, methanol and *n*-hexane. The samples were dried after cleaning and then ground into powder form. The algal extract were prepared in each solvent using maceration technique. The maximum DPPH inhibition % was shown by *Rhizoclonium hieroglyphicum* that was 70.5 in *n*-hexane extract at concentration of 0.5 (0.284 ± 0.002) and lowest by *Cladophora glomerta* 1.037 in 0.125 concentration (0.954 ± 0.000577) of methanolic extract. For TPC the chloroform extract of *Rhizoclonium hieroglyphicum* showed highest antioxidant capacity 41.3 GAE/mg (0.387 ± 0.0079) and lowest by chloroform extract of the *Ulothrix aequalis* that was 7.5 GAE/mg (0.183 ± 0.005). The maximum metal chelating activity was shown by chloroform extract of *Cladophora glomerata* 34.6 (0.924 ± 0.0077) and lowest by chloroform extract of *Ulothrix aequalis* 2.915 (0.706 ± 0.0040). The ABTS activity showed variation in result as for its highest inhibition percentage was in extract of *n*-hexane and chloroform while the values are comparatively low in methanol. So, according to result *Cladophora glomerata*, *Ulothrix aequalis* and *Rhizoclonium hieroglyphicum* all have high antioxidant value due to presence of bioactive compounds. As, a result all these species are promising source of antioxidants and further required for pharmaceutical aspects in search of new drugs and medicines.