

Abstract

The aim of the study was to evaluate antifungal activity of *Padina tetrastromatica* from sandspit, Karachi coast belong to phylum phaeophyta. To evaluate, four concentrations were made along with crude extract of alga in different solvents to test for their actions against the fungi species which are pathogenics to cause various diseases. A control with other matchable concentrations were also tested in experiments. The results of the experiments were excellent on the ability of antifungal activity. The most striking results were shown by the Chloroform extract against *Trichoderma* sp. which were 40.3 ± 0.38 mm by crude, 32.1 ± 0.55 mm by $1/1$ concentration. The least active extracts were n-Hexane and methanol against *Aspergillus niger*, *Botrytis* sp. and *Rhizopus stolonifer*. It was also noted that chloroform extract was most effective against all types of species with excellent result. Aqueous extract showed zero activity against all type of fungi except *Penicillium notatum* which showed least activity.

n- Hexane extract of algae was considerably a strong antifungal agent against *Penicillium notatum* in its all concentrations. However, n-hexane extract with 1/100 (g/ml) showed nothing against *Aspergillus niger*, *Botrytis* sp. and *Rhizopus stolonifer* due to least antifungal ability (Table X-Annexure 1).

Methanol extract was excellent antifungal agent against *Aspergillus oryzae* and *Botrytis* sp. in 1/1 concentration with maximum against *Botrytis* sp. in crude form. It was least against *Aspergillus niger*, *Trichoderma* sp. and *Rhizopus stolonifer* in least concentration form (Table XI-Annexure 1). For all extracts in Chloroform showed confidentially results against all tested fungi. Most of obvious alga extract was strong agent against *Trichoderma* sp. all prepared concentrations. The second strongest antifungal activity was showed against *Aspergillus oryzae*. It was noted that least antifungal activity was recorded against *Botrytis* sp. (Table XII- Annexure 1). Algal extract with Aqueous extract did not show antifungal activity against all type of fungus except *Penicillium notatum* which showed least activity that 8.3 ± 1.2 mm in crude, 7.6 ± 0.7 mm for 1/1 and 1.5 ± 0.28 mm in 1/100 concentration respectively (Table XIII-Annexure 1).