



Comparative investigation of anthelmintic activity using various extracts of *Cassia tora* plant parts *in vitro* study

Sucheta A Gaikwad^{1*}, Milind S.Thakare², Rasika Torane³, Elja Khatiwhora⁴

^{1,3}Dept. of Chemistry, Dr.T.R.Ingle Research Laboratory, Sir Parashurambhau College, Pune 411030, India

²Dept. of Chemistry, KES Pratap College, Amalner, Dist. Jalgaon 425401, India

⁴Dept. of Chemistry, Y. M. College, Bharati Vidyapeeth University, Pune 411038, India

Abstract: Parasitic infection including helminthiasis is a critical serious problem in the tropical region. Helminths produce serious problem in human and other animals around the world specifically to the third world countries. As per WHO, only few drugs are frequently used in the treatment of these parasite infections. Albendazole, Piperazine citrate are the commercial anthelmintic drugs available. The drug is poorly absorbed and efficacy depends on transit time in the gastrointestinal tract. The toxicity is extremely low, but the drug has not been studied in children under two years of age. There is increasing demand of natural anthelmintics. Hence present study ethyl acetate, acetone, methanol and aqueous extracts of *Cassia tora*, seed and seed cover were investigated for their phytochemical followed anthelmintic activity against *Eisenia foetida*. Three concentrations (1, 2.5, 5 mg/ml) of each extract were studied it involves the determination of time of paralysis and time of death of the worms. The gradual increase in a dose exhibited, a gradual increase in the activity. Phytochemical analysis revealed presence of flavonoids as one of the chemical constituent. It was observed that all extracts exhibit positive response to certain degree of anthelmintic activity in dose dependent manner. Aqueous and methanol extracts displayed significant anthelmintic activity at highest concentration of 5mg/ml which is significant in case of seed extracts compare to seed cover. It was concluded from the experimental details that the plant revealed noteworthy anthelmintic activity. The data were verified as statistically significant by using two way ANOVA at 1% level of significance.

Keywords: *Cassia tora*, anthelmintic activity, *Eisenia foetida*, seed and seed cover extracts.