

Larval effect of extract of harmine and harmalin from *Peganum harmala* on juvenile of *Protostrongylus rufescens*

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Background and Aims: Because of increasing importance of medicinal plants, better use of these natural resources and damage caused by parasitic diseases, this study was conducted to find out the antiparasitic effect of *Peganum harmala* on juveniles *Protostrongylus rufescens*.

Methods: Extracts of harmin and harmaline from *P. harmala* seed were prepared based on the method of Manske. The larvae of *P. rufescens* were taken by culture method. The extracts were dissolved in dimethyl sulfoxide (DMSO) separately to prepare stock solutions. The effect of different concentration of each extract on larvae was studied. Larvae were placed in chamber-slides and different concentrations of extract were added to them. Then the effect of extract was evaluated during 180 minmin.

Results: The extracts had various larvicidal effect on juveniles of *P. rufescens* depending on their concentration. In low concentration, not only the effect of extract was less, but the efficacy was shown to start at longer time. The extraction which was dissolved in DMSO killed the larvae at the concentration of 200 mg/ml and 100mg/ml (after 80 min), 50mg/ml (after 100 min), and eventually 25 mg/ml (after 120 min). The least effectiveness of this solution was observed at concentration of 0.78 mg/ml with the rate of 1 mortality and the starting of effect after 60 minmin.

Keywords: *Peganum harmala*; Harmine and harmalin; *Protostrongylus rufescens*