

Leishmanicidal activity of *Pulicaria gnaphalodes*

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Background and Aims: The present study was designed to examine the antileishmanial effect of *Pulicaria gnaphalodes* on *L. major* promastigotes.

Methods: The aerial parts of the plant were collected, dried and powdered. The methanol extract of plant was obtained using percolation. The promastigotes of *Leishmania major* was cultured in RPMI 1640 with 10% FCS. The parasites concentration adjusted to 10⁶ promastigotes per ml. Six final concentration of methanolic extraction was used as follow: 15, 8.5, 4.25, 2.12, 1.06, 0.56 mg/ml. Amphotricin B and culture medium without any extract were used as positive and negative control respectively. Leishmanicidal effect was determined by parasite death percent using microscopical Neubauer chamber on 0, 1/3, 1/2, 1, 2, 4, 6, 24 hours. Results : The results revealed that the methanol extract of *Pulicaria gnaphalodes* has an extraordinary Leishmanicidal effect on *L. major* promastigotes. It could kill 100% parasites in final concentration of 15 mg/ml up to 60 minutes. The minimal concentration (0.56 mg/ml) killed 44% of promastigotes in 24h. The effect of other concentrations was between these two concentrations. It showed that leishmanicidal effect of this extract is dose dependent.

Conclusions: *Pulicaria gnaphalodes* has a good leishmanicidal effect. With this study recommended to design a new dosage form from this plant in future. It seems leishmanicidal activity most related to terpenoid constituents of the plant. However, the leishmanicidal activity of phenolic compounds is possible due to relative solubility of the polar constituents on methanol solvent.

Keywords: *Pulicaria gnaphalodes*; Antileishmanicidal activity; Promastigotes