

## Abstract

**Background:** Dengue is the most common mosquito-borne viral disease of humans that in recent years has become a major international public health concern. *Aedes aegypti* mosquito is the main vector for dengue. Vector control is the most opted solution available for reducing the morbidity. Synthetic insecticides not only affect the non-target population but also increase resistance to the vector so the search for natural insecticides which do not have any ill effects on non-target population and are easily degradable is of top priority.

**Aim of Study:** To determine whether methanol extract from tobacco (*Nicotinae tabacum L*) stem contains alkaloid group, to develop methanol extract of tobacco (*Nicotinae tabacum L*) stem as a larvicide against *Aedes aegypti* larvae and to study the larvicidal activity of methanol extract from tobacco (*Nicotinae tabacum L*) stem against *Aedes aegypti* larvae.

**Methods:** Thin layer chromatography is done to the methanol extracts of tobacco (*Nicotinae tabacum L*) stem for secondary metabolites detection. *Aedes aegypti* larvae tested against methanol extracts of tobacco (*Nicotinae tabacum L*) for 24 hours. Number of larvae mortality counted and analysed to get the LC<sub>50</sub> and LC<sub>90</sub> of the extracts.

**Result:** Methanol extracts of tobacco (*Nicotinae tabacum L*) stem contains alkaloid group. The LC<sub>50</sub> of methanol extracts of tobacco (*Nicotinae tabacum L*) stem was at 2259.79ppm while the LC<sub>90</sub> was at 4429.82ppm.

**Conclusion:** Methanol extracts of tobacco (*Nicotinae tabacum L*) stem contain alkaloid group, shows larvicidal activity against *Aedes aegypti* larvae but not effective as larvicide for commercial use by it only having LC<sub>50</sub> of 2259.79ppm.

**Keywords:** *Aedes aegypti* larvae, *Nicotinae tabacum L* stem, larvicidal activity, nicotine.