**Abstract**

Mimosa Pudica Linn is a commonly used herbal drug against many diseases. The antivectorial activity of ethanolic leaf extract of Mimosa Pudica Linn was investigated in the laboratory. Different concentrations (0.2, 0.4, 0.6, 0.8 and 1.0 ppm) against different immature stages of Anopheles stephensi were tested and showed considerable toxicity effect against the immatures of Anopheles stephensi. Lethal concentration (LC50 and LC90) has been worked out on different larval stages of Anopheles stephensi. The LC50 values of M. pudica for I instar larvae was 0.723%, II instar was 1.150%, III instar was 1.540%, IV instar was 2.073%, and pupa was 2.835%, respectively.The LC90 values such as I instar was 3.578%, II instar was 4.079%, III instar was 4.833%, IV instar was 5.333 % and pupa was 6.717%, respectively. The smoke toxicity effect of M. pudica leaves exhibited a good knock down effect when compared with the commercial synthetic mosquito coil. The smoke affected gravid females and they lay only a fewer number of eggs and egg hatchability was also reduced. The percentage of population reduction was 79.5% in the plant exposed mosquitoes and in the positive control (Mortein coil), the percentage of reduction was 71.8%