

*Culex quinquefasciatus*, primary vector of lymphatic filariasis, poses significant health risk worldwide. Traditional control relying on synthetic larvicides has led to residual concerns and resistance development, necessitating eco-friendly alternatives. This study explores the larvicidal potential of essential oils (EOs) from *Salvia rosmarinus* and *Citrus limon* as well as their nanoliposomal formulations, aiming to improve the stability and larvicidal efficacy. Essential oils were extracted through hydro-distillation method using Clevenger apparatus while nanoliposomes and their allures were synthesized by using ethanol injection method. Essential oils were subjected to GC-MS for the composition profile of EOs. Nanoliposomal formulations were characterized by using dynamic light scattering (DLS), Zeta analyzer, Attenuated Total Reflection-Fourier Transform Infrared (ATR-FTIR) and UV spectrophotometer analyses. The results showed a significant difference in larval mortality across different concentrations ( $F_{4, 16} = 979.64$ ;  $P < 0.001$ ) and various formulations used ( $F_{4, 16} = 834.04$ ;  $P < 0.001$ ). Both essential oils, exhibited strong larvicidal activity against sewer strain *Cx. quinquefasciatus* larvae with  $LC_{50}/LC_{90}$  value 155.73/200.23ppm for *S. rosmarinus* and 80.07/120.42ppm for *C. limon*. Nanoliposomes containing *S. rosmarinus* EO and *C. limon* EO, with mean particle size 801nm and 887nm, showed larvicidal effects with  $LC_{50}/LC_{90}$  value 118.17/185.73ppm and 105.65/157.64ppm, respectively. We concluded that *S. rosmarinus* and *C. limon* EOs loaded nanoliposomes offer promising and effective green larvicides against sewer strain larvae of *Cx. quinquefasciatus*. It is also recommended to investigate their efficacies against other mosquito's larvae.