

Developemnt of Antibacterial Herbal Gel Containing Leaves Extracts of *Acalypha indica* and *Eclipta alba*.

¹Samsun Nisha A.B, ²Thivya J, ^{1*}Thuvaragan S, ³Gnanakarunyan T, ⁴Manoranjan T

¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna

²District General Hospital, Mannar

³Department of MLS, Faculty of Allied Health Sciences, University of Jaffna

⁴Department of Chemistry, Faculty of Sciences, University of Jaffna

This study was aimed to develop herbal antibacterial gel using leaves of methanolic extract of *Acalypha indica* and *Eclipta alba*. Extracts were prepared using soxhlet apparatus. Three different carbapol base gel formulations that contain 4% w/w of *Eclipta alba* extract, 4% w/w *Acalypha indica* extract and 4% w/w of *Eclipta alba* and *Acalypha indica* extracts (1:1) mixture were prepared and they were coded as formulations A, B and C respectively. Physical parameters of the prepared gel formulations were evaluated. The antibacterial activities of the prepared gel formulations were evaluated using agar disc diffusion method and activity was compared with a marketed antibacterial gel (Beta gel-G). Stability test was carried out by keeping the three formulations in well closed containers at room temperature and pH and spreadability were measured for 15 days. Multiple comparison of antibacterial activity (zone of inhibition) of the herbal gel was done using ANOVA and p value less than 0.05 was considered significant. Initial pH of Formulations A, B and C were 6.97 ± 0.1 , 6.63 ± 0.1 , and 6.74 ± 0.1 , respectively. Formulations A showed better spreadability compare to B and C. All the herbal gels showed higher mean zone of inhibition for *Staphylococcus aureus* than *Pseudomonas aeruginosa*. Formulation C has high anti bacterial activity and followed by A and B based on Turkey test results. However marketed product has highest activity than prepared formulations. According to stability test results, physically most stable formulation was A. This study gives promising results in the development of herbal based anti bacterial gels.

Key Words: Herbal antibacterial gel, Extract, *Acalypha indica*, *Eclipta alba*.