

Individual and Synergistic Antimicrobial Properties of *Plectranthus amboinicus*, *Murraya koenigii*, *Ocimum sanctum* and *Azadirachta indica* Against Acne Causing Bacteria

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ABSTRACT

Antibiotic resistance is currently one of the major issues in the healthcare sector since the emergence of antibiotic resistant microorganisms. This has resulted in the ineffectiveness of some of the available antibiotics to combat sickness. Hence, there is a need to find an alternative to replace the heavy usage of antibiotics. In this study, we have done a preliminary test to compare the individual and synergistic antimicrobial efficacy of the extracts of *Plectranthus amboinicus* (indian borage), *Murraya koenigii* (curry leaves), *Ocimum sanctum* (tulsi) and *Azadirachta indica* (Neem) against acne causing bacteria such as *Staphylococcus aureus* and *Staphylococcus epidermidis*. We extracted the crude extracts of these traditional herbs and tested their individual and synergistic antimicrobial efficacy in different combinations against pure cultures of *S. aureus* and *S. epidermidis* by using disc diffusion technique. We also obtained five acne samples from different volunteers and tested them with these traditional herbs for individual and synergistic antimicrobial effect. We have found that all the traditional herbs mentioned possessed antimicrobial effect against acne causing bacteria, except for the extracts of *Ocimum sanctum*. The combination use of *Murraya koenigii* and *Azadirachta indica* showed promising synergized antimicrobial efficacy whereas the combination of *Plectranthus amboinicus* with the other plant extracts such as *Azadirachta indica* resulted in an antagonistic effect. The results of our antimicrobial testing of plant extracts on bacteria causing acne showed promising results. However, further research on the antimicrobial efficacy of the plant extracts need to be done before we can suggest them as an alternative treatment for acne.