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IN-VITRO STUDY TO EVALUATE THE ANTIBACTERIAL ACTIVITY OF SEETHODAKA, VISARPAHARA AND NEELYADI OIL AGAINST *Staphylococcus aureus* AND *Escherichia coli*

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Ayurvedic and traditional oils play a major role in internal and external treatment for numerous diseases as well as wellness in Ayurveda. Ayurveda studies have gifted thousands of oil recipes with dynamic applications. *Seethodaka*, *Neelyadi*, and *Visarpahara* are some of the commonly available traditional oils which show wondering effects in treating skin diseases such as ulcers, wounds, rashes and boils. *Staphylococcus aureus* and *Escherichia coli* are the most widely detected bacteria in skin conditions. This study conveys the determination of the antimicrobial effects of *Seethodaka*, *Visarpahara*, and *Neelyadi* oils against *Staphylococcus aureus* and *Escherichia coli* using standard antibiotic sensitivity tests. All three oil preparations were freshly prepared with the combination of appropriate ingredients in ratios based on the traditional Ayurveda classics. Microbial assays were conducted using Mueller Hinton Agar (MHA) medium. Five wells were made in each plate, and the bottom was sealed using molten agar. Tetracycline (2000 ppm:100 µ L) and DMSO (100 µ L) were used as positive and negative controls, respectively. Three oil samples, along with positive and negative controls, were each added 100 µL to individual plates to assess their antibacterial activity against both strains. Subsequently, inhibition zones were measured after 24 hours of incubation at 37°C. Each experiment was replicated three times, and the mean inhibition zone diameter was calculated for each plate. The outcomes revealed a 12 mm Inhibitory zone diameter for *Seethodaka* oil against *Staphylococcus aureus*, whereas *Visarpahara* oil exhibited a 16 mm inhibition zone, and *Neelyadi* oil displayed a 13 mm inhibition zone against the same bacteria. The positive control, Tetracycline, resulted in a 40 mm inhibition zone diameter against *Staphylococcus aureus*. Based on the findings, all three oils demonstrated significant antimicrobial effect against *Staphylococcus aureus*. Moreover, *Seethodaka* oil exhibited an 8 mm inhibition zone diameter against *Escherichia coli*, while *Visarpahara* oil displayed a remarkable antimicrobial effect with a 24 mm inhibition zone diameter against *Escherichia coli*. *Neelyadi* oil also indicated substantial inhibition, measuring 12 mm against *Escherichia coli*. In contrast, the positive control exhibited a 30 mm inhibition zone diameter against *Escherichia coli*. In conclusion, the tested traditional oils, including *Seethodaka*, *Visarpahara*, and *Neelyadi*, exhibited considerable antibacterial effects against both *Staphylococcus aureus* and *Escherichia coli*.

Keywords: *Seethodaka*, *Neelyadi*, *Visarpahara*, *Staphylococcus aureus*, *Escherichia coli*