# Abstract

Acne is a skin condition that is linked with pilosebaceous unit and cause symptoms like pimples, pastules and papules. In present study 6 samples were collected from acne patients of age 15 to 19 years old. The specimens were cultured on nutrient agar plates. Six suspected single colonies of acne causing bacteria were isolated using multiple streaking and purifying techniques. Isolates were identified by biochemical tests like catalase, glucose fermentation and gram staining. For molecular characterization of the strains DNA extraction, polymerase chain reaction and 16SrRNA sequencing was performed and the six strains were identified as strains S1 (*Staphylococcus* sp.), S2 (*Cutibacterium acnes*), S3 (*Staphylococcus aureus*), S4 (*Staphylococcus epidermis*), S5 (*Bacillus paramycoides*) and S6 (*Mammaliicoccus lentus*). Herbal species such as neem (*Azadirachta indica*), tulsi (*Osimum sanctum*), licorice root (*Glycyrriza glabra*), turmeric (*Curcuma longa)* and amaltas (*Cassia fistula*) that are acknowledged as medicinal plants were collected, dried and grounded to prepare their 95% ethanolic extracts. Anti-acne herbal cream was formulated using these herbal extracts and a few chemicals. Anti-microbial activity of all 6 strains was tested by performing agar well diffusion assay and agar-disc diffusion assay using these 5 herbal extracts and anti-acne herbal cream. The antimicrobial activity for well and disc diffusion assay showed that neem extract was most efficient and 100% of acne isolates showed visible inhibitory zones and licorice extract showed least efficient results based on the ANOVA test results. Our results showed that all the 5 herbal extracts are potent against acne causing bacteria on agar plates. Neem (*Azadirachta indica*) and turmeric (*Curcuma longa*) showed more efficient results followed by amaltas (*Cassia fistula),* tulsi (*Osimum sanctum*) and licorice (*Glycyrriza glabra*). Hence, the present study could lead to future utilization of neem, turmeric, amaltas, tulsi and licorice against the pathogens of skin.