

PHYTOCHEMICAL AND ANTIBACTERIAL STUDY ON THE BARK OF *Odina wodier* – A SCIENTIFIC SCREENING

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Abstract

Odina wodier is a medium or large sized tree which bark was extensively used by ancient *Siddhars* in order to prevent and treat wound infections. *Staphylococcus aureus* and *Pseudomonas aeruginosa* were the most commonly isolated pathogens from infected wounds. This present study was to screen phytochemicals in the bark of *Odina wodier* and to evaluate its antibacterial activity against *S. aureus* and *P. aeruginosa*. The phytochemical screening of bark of *Odina wodier* was done in aqueous extract and the antibacterial activity was evaluated against *S. aureus* – NCTC 6571 and *P. aeruginosa* – NCTC 10662 in aqueous and ethanolic extracts by using cut well agar diffusion method. Based on the results of the phytochemical screening, tannins, glycosides and saponins were present in the aqueous bark extract. The mean diameter of the zone of inhibition of the aqueous bark extract was 17.33 ± 0.47 mm for *S. aureus* and it was 13.00 ± 0 mm for *P. aeruginosa*. Similarly, the mean diameter of the zone of inhibition of the ethanolic bark extract was 22.33 ± 0.47 mm for *S. aureus*. This shows that the bark of *Odina wodier* has the antibacterial potential against both Gram positive (*S. aureus*) and Gram negative (*P. aeruginosa*) bacteria in aqueous bark extract while it has antibacterial activity only against Gram positive bacteria (*S. aureus*) in the ethanolic bark extract. The antibacterial activity against both Gram positive and Gram negative bacteria in aqueous bark extract of *Odina wodier* can be due to the presence of tannins and saponins. These results provide the evidence of antibacterial activity in the bark of *Odina wodier* and validate that the bark of this plant can be used in the treatment of wound infection. Therefore, the findings of this study will be helpful to develop antibacterial solutions or creams in future from the bark of *Odina wodier*.

Keywords: Antibacterial, *Odina wodier*, Phytochemicals, Wound infection

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